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95th Congress }  
1st Session }

JOINT COMMITTEE PRINT

EAST EUROPEAN ECONOMIES  
POST-HELSINKI

A COMPENDIUM OF PAPERS

SUBMITTED TO THE

JOINT ECONOMIC COMMITTEE  
CONGRESS OF THE UNITED STATES



AUGUST 25, 1977

U.S. GOVERNMENT  
PRINTING OFFICE  
WASHINGTON, D.C. 20540

Printed for the use of the Joint Economic Committee

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## LETTERS OF TRANSMITTAL

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AUGUST 22, 1977.

*To the Members of the Joint Economic Committee:*

Transmitted herewith for use by the Joint Economic Committee, the Congress, and the interested public is a factual and interpretative assessment of the policy and performance of the East European economies at home and abroad entitled "East European Economies Post-Helsinki." This compilation of invited papers is designed to meet the interests of the committee and the Congress by providing an up-to-date body of data and interpretative comment on the domestic and foreign economic relations of the countries of Eastern Europe, primarily Bulgaria, Romania, Hungary, Czechoslovakia, Poland, the German Democratic Republic (G.D.R.), Albania, and Yugoslavia.

It is hoped, that this volume, drawing on research of North American, Israeli, and European academic specialists as well as professionals in the U.S. Government will serve as an aid and a stimulus to scholarship on this subject area. The committee is deeply indebted to the scholars who gave so generously of their time and expertise. They are listed in the executive director's memorandum to me, and I would like to express on behalf of the committee our gratitude for their invaluable efforts.

Finally, we wish to take this opportunity to express our gratitude to the Congressional Research Service for making available the services of John P. Hardt, who helped plan the scope of the research and coordinated and edited the contributions for the present study.

It should be understood that the views contained in this study are not necessarily those of the Joint Economic Committee nor of individual members.

Sincerely,

RICHARD BOLLING,  
*Chairman, Joint Economic Committee.*

---

AUGUST 17, 1977.

HON. RICHARD BOLLING,  
*Chairman, Joint Economic Committee,  
U.S. Congress, Washington, D.C.*

DEAR MR. CHAIRMAN: Transmitted herewith is a volume of materials on the economies of Eastern Europe entitled "East European Economies Post-Helsinki." The study contains papers written by scholars and specialists who, as recognized authorities on Eastern Europe, were invited to contribute. The specialists in question have been drawn from the ranks of various universities here and abroad, private research institutes, several departments of the Federal Government, and the Library of Congress. The papers they have submitted,

in response to our request, cover the broad range of topics dealing with the recent performance of East European economies. Included among these topics are economic policy, the defense burden, agriculture, industry, population, manpower, education, technology, chemical and petroleum automotive transport and energy industries, commercial relations, balance of payments, and industrial cooperation.

This volume has a new and unique section on the individual countries of Eastern Europe. We are especially indebted to Prof. Paul Marer in arranging that section and organizing a seminar in February in Washington to assess the drafts. Numerous others contributed to this section and other sections in the volume. Special thanks are due to Prof. L. Dellins, Dr. Lawrence Brainard, Prof. Alan Brown, and Mr. Leo Tansky.

The Joint Economic Committee released predecessor volumes to this entitled, "Economic Developments in Countries of Eastern Europe," in 1969, and "Reorientation and Commercial Relations of the Economies of East Europe" in 1974. The committee has in recent years followed a pattern of periodic assessments of the economies of socialist states and has completed the following studies: "People's Republic of China: An Economic Assessment" in 1972, "Soviet Economic Prospects for the Seventies" in 1973, "China: An Economic Reassessment" in 1975, and "Soviet Economy in a New Perspective" in 1976.

The contributors to the study have been most considerate of our needs and generous in giving of their time and expertise to provide not only basic information but also an essential analytical perspective. The individual scholars who have participated in the preparation of the present study are:

Mark Allen  
Thad P. Alton  
Godfrey Baldwin  
Elizabeth M. Bass  
Max Baumer  
Morris Bornstein  
Josef C. Brada  
Jay A. Burgess  
Imogene Edwards  
Zbigniew M. Fallenbuchl  
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Edward Hewett  
Vaclav Holesovsky  
Marvin R. Jackson  
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Hans-Dieter Jacobsen  
Michael Kaser  
Michael Keren  
Martin J. Kohn  
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Z. Edward O'Relley  
Richard Portes  
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Marc Rubin  
Adi Schnytzer  
Marjory E. Searing  
Arthur J. Smith  
Edwin M. Snell  
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Laura D'Andrea Tyson  
Pompiliu Verzariu, Jr.  
Edward T. Wilson  
Thomas A. Wolf  
Wassyl Znayenko  
Joan Parpart Zoeter

In addition, the committee received the wholehearted cooperation from the following private organizations and Government agencies:

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 Vienna Institute of Comparative Economics, Austria  
 University of Windsor, Canada  
 Institution for Social and Policy Studies, Yale University

It should be clearly understood that the views expressed in those papers are those of the individual contributors and do not necessarily represent the position of their respective governments, or private institutions, the Joint Economic Committee, individual members thereof, or the committee staff.

The Library of Congress made available the services of John P. Hardt, senior specialist in the Congressional Research Service, who bore major responsibility for planning the scope of the research, and coordinating and editing the contribution. He also wrote the summary for the present study. Dr. Hardt was assisted by Ronda Bresnick also of the Library staff.

Edward J. Jacobs provided valuable printing and editorial assistance.

JOHN R. STARK,  
*Executive Director, Joint Economic Committee.*

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## SUMMARY

BY JOHN P. HARDT

Economic interdependence was recognized as a growing global need by the 35 signatory nations of the European Commission on Security and Cooperation in Helsinki in August 1975. The draft Brezhnev Constitution unveiled in June 1977 stressed the need for economic interdependence among the nations of the Council for Mutual Economic Cooperation (CMEA)<sup>1</sup> in Eastern Europe. Interest in the Soviet Union and Eastern Europe in East-West commercial relations is unabated. Indeed, fulfillment of CMEA national goals of modernization and improved living standards seem increasingly tied to economic relations with the Western industrial nations. Eastern Europe and the Soviet Union remain for the West one of the larger untapped markets for their expanding economies. As a result of this reciprocal interest in economic interdependence, "Basket Two" of the Helsinki Final Act, "Cooperation in the Field of Economics, of Science and Technology and the Environment," remains the least controversial and possibly most productive area for the Fall, 1977, agenda in the Belgrade follow up meeting to Helsinki. In spite of the views of some of the smaller nations of Europe security matters (Basket One) and human rights considerations (Basket Three) may be dominated by the Soviet-United States bilateral discussions.

Recent economic performance in the nations of Eastern Europe, including Yugoslavia and Albania, may be assessed by international standards of comparison as ranging from good to excellent. It would be ironic to stop on that note as leaders and populace, alike, generally view economic performance as insufficient to meet major policy needs or inadequate to fill strongly felt popular needs, e.g., 6 percent annual growth in GNP is not sufficient or adequate if a minimum of 7 percent is planned and required. Indeed it is no exaggeration to say that the tenure and effectiveness in the office of several of the Eastern party leaders depends, uniquely, on the performance of their economies. Circumscribed as the power of East European leadership is in security, political, and ideological matters economic policy remains the area of greatest indigenous autonomy.

Although the Soviets may have less control over economic issues than over other developments, the policies of the Eastern giant have a profound effect on the East European economies. Eastern Europe's economic dependence on the USSR has been recently underlined as the Soviets adjusted their energy export policy by raising oil prices to Eastern Europe quickly and steeply, and tightening their allocations. This onerous materials price burden added to the ever present defense

<sup>1</sup> CMEA, or the Council of Mutual Economic Assistance, is also abbreviated COMECON or CEMA in various papers of this compendium.

claims, makes the influence of Soviet policy on East Europe appear generally unfavorable. Offsetting this burden, the Soviet Union is still accepting East European goods in trade that can not be easily marketed elsewhere, especially in the West.

Unfavorable as Western inflation, credit and trade restrictions and recession have been for the critical development of East-West interdependence, the industrial West still appears to be the major source of good news. Western imports, technology, and supplies bear promise for necessary Eastern economic modernization and consumer improvement. Small as Western trade may be it often appears to represent the critical margin for economic success.

In 1969 the Joint Economic committee released its first volume on Eastern Europe, "Economic Developments in Countries of Eastern Europe." In 1974 "Reorientation and Commercial Relations of the Economies of Eastern Europe" was released by the committee. These volumes joined the triannual series that deals, in turn, with the economies of the Soviet Union, Eastern Europe and the Peoples Republic of China.

In the 34 chapters in this compendium, some 62 specialists from governmental and academic institutions in the United States, Federal Republic of Germany, United Kingdom, Israel, and Canada have assessed East European economic policy, performance, and prospects for the future. Special attention is given to changes in East European priorities and economic institutions, especially as they relate to commercial relations with the West. While the countries of CMEA or COMECON provide the central focus of the compendium, attention is also given to Albania, and Yugoslavia—not full members of CMEA. The German Democratic Republic (G.D.R.),<sup>2</sup> Poland, Czechoslovakia, Hungary, Romania, and Bulgaria form the core nations of CMEA. The U.S.S.R. is dealt with only to complete a frame of reference for analyzing policy and performance.

The chapters have been divided into three sections: Policy and Planning, Individual Country Studies, and Foreign Economic Relations. The second section on individual countries is a unique addition to the format of the earlier volumes. A special effort was made to solicit comparable assessments on the recent economic performances of the domestic and foreign economic relations of the CMEA East European Countries, Yugoslavia and Albania.

The authors have provided their own summaries and the reader may wish to make up his or her own mind on differences of professional viewpoints. The following are some of the major questions raised by the papers with an indication of answers and where in the volume the appropriate analysis may be found.

*1. How does economic performance rate as a policy issue in the eyes of East Europe leadership and populace? What are the major internal and external factors that influence East European economic performance? Is Eastern European performance of importance to global politics?*

The latent instability always present in Eastern Europe recently surfaced once again affecting most countries of the area. Rooted in the long suppression of civil rights, national aspirations and values and complicated economic grievances, the challenge posed by dissidents to those in power has startled local authorities,

<sup>2</sup> The German Democratic Republic is called East Germany by some authors.

alarmed their Soviet overlords, and raised new doubts among Western observers about the long-term ability of the existing Communist regimes to govern their populations. The question is not so much whether existing leaderships would be toppled—although in some countries this possibility cannot be altogether ruled out—but rather whether the system can adjust to cope with such pressures. Is it willing and/or able to react in an enlightened fashion, or will it regress into positions reminiscent of policies prevailing during the “cold war” days: Severe repressions at home and bitter hostility towards the West in foreign relations? In effect, will it jettison detente?

The dissent which currently plagues Eastern Europe has made the authorities there realize that a new crisis of confidence in the East-West relationship appears to have arisen that could well come to a head at the forthcoming review conference in Belgrade. In approaching that conference the East European regimes face a dilemma. On the one hand, they desire to maximize their access to Western technology, Western credits and markets to promote their economic progress. In this context the maintenance of Western goodwill is a necessity. On the other hand, the dissident demands for a more relaxed, liberal rule at home is perceived as a threat to the system and a demand to relinquish tested methods of rule—at least in the more orthodox countries. The failure to grant at least some of these demands, however, courts an adverse reaction in the West, could upset state-to-state relations with Western countries, and ultimately repel Western economic partners. The reaction to this dilemma is likely to be a major test of the East European regimes’ aptitude to govern. The outcome is by no means certain, except that the economic advantages would in all likelihood be secondary should there occur a real threat to the survival of the existing system. In addition, Soviet attitudes are likely to influence strongly all countries excepting such traditional mavericks as Yugoslavia, Albania, and Romania. (Matusek, pp. 3 and 11.)

Since 1960 the East European countries, like the U.S.S.R., have been engaged in “peaceful economic competition with the capitalist world.” They have kept their economies growing at least as fast as similar Western economies—much faster, according to their claims—without fundamental changes in institutions and policies. This feat has been accomplished at the cost of serious imbalances in their economies—consumer expectations that cannot be met, large inventories of hoarded materials and unsold goods, and import requirements that outrun export capabilities. They cannot go on in this way very much longer without outside help; the foreign trade deficits have become too large. And without refinancing of debts to the West, these are likely to become unmanageable in a few years, forcing a slowdown in economic growth. (Snell, p. 13.)

As argued in a previous paper, international inflation may be expected to have three important potential effects:

- (1) A tendency to reverse the liberalizing and decentralizing economic reform measures by moving toward greater degrees of centralization and greater use of administrative measures in the attempt to contain the impact.
- (2) A tendency to reduce the participation in the international division of labor and to try to return toward a policy of import substitution, and
- (3) A tendency toward a shift in trading patterns away from the West and toward CMEA where prices have been held more stable by a pricing policy which sets CMEA prices as equal to the average of several past years’ prices in world markets, thereby introducing significant lags into price increases (CMEA markets act as absorbers of price inflation). (Fallenbuchl, Neuberger, and Tyson, pp. 100–101.)

## 2. *What is the balance of benefits and costs that Soviet economic relations bring to the performance of the East European economies?*

Eastern Europe, the region where both World Wars and the Cold War originated, occupies a critical position in the European and world balance of power. The course of international politics since the second world war tends to confer added validity to the axiom whose best known expression was given by Halford Mackinder, projecting imperial control over Eastern Europe as the first and indispensable (although not in itself sufficient) precondition for the attainment of world hegemony: “Who rules Eastern Europe commands the Heartland; who rules the Heartland commands the World-Island; who rules the World-Island commands the World.” The establishment and perpetuation of Soviet control over Eastern Europe since the end of World War II has brought about a shift of unequaled magnitude in the East-West balance of power to the advantage of the Soviet Union. (Socor, p. 503.)

The Council of Mutual Economic Assistance is not a dramatic organization. Viewed from the West it lacks some of the glamor of the Warsaw Pact or the CPSU Congresses in Moscow or the new political force referred to as Eurocommunism . . . .

Evaluated on the eve of its 30th anniversary, there can be no doubt that the organization has made important progress, especially since 1970. The launching of the Complex Program in 1971 was followed, just two years later in 1973, by the world energy crisis which, from the viewpoint of Soviet and CEMA Secretariat objectives, could hardly have been more fortuitous. The upheavals of 1973 and 1974, and the worldwide inflation and shortages which will apparently continue for the foreseeable future, have given a tremendous boost to East European economic dependence on the USSR. It is difficult, of course, to measure the exact degree of this dependence and it is still in process of development. But added to the geographical, political and military ties which these countries already have with the Soviet Union, it is an impressive fact . . . .

As noted in this paper's introduction, CEMA is moving slowly but steadily forward. There are indeed many serious problems, just as the Soviet Union itself has many problems in its own economic development. It would appear, however, that at present time is on the side of "socialist economic integration" and that over the next two decades there is a good possibility that CEMA will become an increasingly stronger and more effective organization. (Smith, p. 173.)

### 3. *Does CEMA integration emulate that of the European Community (EC)? How do the East European integrative developments influence global, East-West and East Europe-United States Commercial relations?*

Our main conclusions can be summarized as follows:

Intra-CEMA trade prices were prematurely raised at the initiative of the Soviet Union to bring the USSR's terms of trade vis-a-vis Eastern Europe more in line with what they would have been if based on current, rather than lagged, world prices. The immediate effect of the rises in CEMA prices was to improve the USSR's terms of trade substantially but still by much less than would have been the case if current world prices had been applied.

The new price formula will not bring about fundamental changes in the intra-CEMA trade system and indeed could complicate the price formation process further without achieving compensating improvements.

Hard currency trade within CEMA does not appear to have expanded very much and is not likely to increase to the point where it will significantly alter the basically bilateral, barter-like character of trade among CEMA countries. (Kohn, Lang, p. 136.)

In other words, it is the mere existence of an enlarged EC and the success of several of its policies affecting trade with CMEA which serve as the incentive for the creation of a meaningful common socialist commercial policy and the distribution of power in CMEA which that implies . . . .

In conclusion, from an economic point of view it would seem that any foreseeable CMEA-EC agreement would have no major consequences for U.S. relations with either group . . . .

What will probably be much more important for these agreements is their implications for political trends in Europe and political relations between Eastern Europe, Western Europe and the U.S. The Soviets have an image for Western Europe just as they have one for CMEA, and agreements such as these are probably an important part of the realization of that image. (Hewett, p. 198.)

### 4. *Has economic reform revived as an East European issue? If so, in what form?*

The reform movement in Eastern Europe emerged because of dissatisfaction with the nature and results of the traditional Soviet-type economic system installed in the area after World War II. The struggle between pro- and anti-reform forces varied by country and led to different reform blueprints, incorporating diverse concepts of "decentralization" and dissimilar implementation strategies.

Throughout the area, there was a retreat from reform—earlier, faster, or farther in some countries than others. The reasons included interest group opposition, internal inconsistencies, insufficient slack, Soviet influence, and developments in the world economy. Only Hungary now has a significantly different economic system, although formal and informal central intervention in the

Hungarian economy is much greater than intended when the NEM was introduced in 1968 . . . .

Furthermore, the East European economies will remain heavily involved in CMEA, both because of Soviet pressure and because their ability in the short- or medium-term to restructure their economies toward more trade with the west is limited. Also, after their sobering experience with fluctuations in prices and quantities on the world since 1973, they appreciate more keenly the advantages provided by the stability of CMEA trade agreements. But, as explained above, integration in CMEA discourages economic reforms which differentiate the member countries' economic systems and give enterprises fulfillment of centrally-negotiated agreements.

Thus, expanded trade and investment relations with the West and CMEA are viewed chiefly as alternatives, rather than companions, to international economic reforms. (Bornstein, pp. 131-132.)

*5. Has the rate and structure of economic performance in Eastern Europe conformed to plans, expectations, and needs? Has defense been reduced as an onerous economic burden? Have any sectors or countries been especially dynamic?*

A review of the performance of the economies of Eastern Europe in the 1965-1970 and 1970-1975 periods taken in conjunction with their plans for 1976-1980 shows a generally declining trend for overall GNP (1965-1970 vs 1970-1975) and for overall NMP national income produced . . . .

Future growth in Eastern Europe will depend strongly on demographic factors, application of advanced technology, attitudes of workers and managers toward production, the related state priorities as to incentives via real wage increases and investment alternatives, and changes in the complex system of economic organization and planning that affect personal motivations for increased work effort and innovative approaches to production. The degree of success in financing imports of advanced production technologies and the up-to-date machinery and equipment to implement them will be an important factor in future performance . . . .

These problems are by no means peculiar to Eastern Europe, but they are exacerbated there by the expectations of the population encouraged by the claims of the socialist planners to catch up with and surpass the Western industrialized countries by measures of human welfare. (Alton, pp. 260-261.)

The military effort of the six East European countries covered in this study is indeed substantial: their number of regular active, well disciplined forces amounts to more than one-half that of the United States. Even in terms of the narrowly defined official defense budgets, the military expenditures of the six East European countries as a group amount to about one-fifth of the total defense outlays of the United States in terms of U.S. dollars. (Alton, Lazarcik, Bass, and Znayenko, p. 286.)

As to Yugoslavia . . .

Industrial production grew at a rapid but diminishing pace from 1952 to 1975. According to the official index, industrial output rose about nine-fold over this period, an expansion which corresponds to an average annual growth rate of 10.0 percent. (Moore, p. 486.)

*6. What have been the priority sectors? How has economic modernization in sectors such as automotive transport fared? Has energy supply been a constraining factor on growth? Are improvements in the consumers lot and exports tied to success in agriculture?*

The East European countries were informed by the U.S.S.R. in the early 1970's that oil deliveries in 1976-80 would be held to the 1975 level. This presented the East Europeans with a dilemma as they rely heavily on increased Soviet oil deliveries to meet their growing energy needs. The East European regimes first responded by planning massive imports of Middle Eastern oil but the explosion in world oil prices subsequently forced them to gear down these plans. In order to fill part of this growing energy gap, the East Europeans then launched programs to accelerate development of domestic energy resources and improve efficiency in fuel use. The burden was further eased when the U.S.S.R. relaxed its limits on oil deliveries somewhat to accommodate those East Europeans investing in Soviet resources development and those facing particularly serious economic difficulties.

Despite these adjustments, energy plans in 1976-80 are very taut with strains already appearing in 1976. If energy supplies fall short, the East Europeans probably will have to reduce economic growth goals. It is unlikely, however, that leadership will cut back planned improvements in consumer living standards very much. The U.S.S.R. is unlikely to provide much more oil in 1976-80 unless political stability in Eastern Europe is at stake. (Haberstroh, p. 379-380.)

The inability of the East European countries to satisfy regional needs for motor vehicle production from regional resources has a number of causes. Most importantly, the necessary production equipment, common vendor-supplied parts, and broadly diversified supporting industry is not available in Eastern Europe. The capability of the U.S.S.R. to supply these items is both insufficient to care for East European needs and not at the desired technological level . . . .

Cooperation with Western firms has allowed the East European motor vehicle industries to expand rapidly, despite major gaps in their domestic supporting industries. Today, these countries participate in the production of a wide assortment of trucks and passenger cars. Their contributions to production from domestic sources are growing and strengthening the import substitution value of their industries. (Edwards, Fraser, pp. 410 and 413.)

. . . Agriculture remains a critical sector in Eastern Europe in view of the rising populations and the sharply increasing demand for more and higher quality, protein-rich foods of animal origin.

After a relatively poor agricultural year for most of the East European countries in 1976, the outlook for the remaining part of this decade appears favorable, particularly for 1977. (Lazarcik, pp. 325-326.)

Experience has shown that large production units in Communist agriculture cannot on their own guarantee the concentration and specialization of production. To be effective, integration plans must be accompanied by other measures, particularly reductions in the range of products that the production unit (whether farm or complex) must deliver changes in management techniques. There must also be adequate investments in new machinery and technology, and sufficient numbers of trained personnel must be available. It is of course possible to impose integration plans on farms and enterprises before conditions are suitable, as is being done in some countries under discussion, but this is likely to lead to a waste of resources without achieving the anticipated benefits. Moreover, the available indications are that the big horizontally integrated enterprises are hardly more efficient than the smaller farms and enterprises they replaced. The task then for the East European countries implementing agricultural integration is not only to choose systems most suitable for their production within the organizational framework chosen. The latter task will undoubtedly prove more difficult to accomplish in the foreseeable future. (Jacobs, p. 355.)

During the past decade significant efforts have been made to increase the output and efficiency of Hungarian agriculture. Provision of greater economic incentives within the framework of the NEM, increased mechanization, the more intensive application of artificial fertilizers, as well as the spread of closed production systems in crop production undoubtedly have contributed greatly to the recorded output gains. (O'Relley, p. 374.)

### *7. How have the demographic trends and manpower supply affected economic policy and performance?*

According to the projections presented here, the population of Eastern Europe is expected to number between 116 million and 130 million by the year 2001. The principal determinant of the size of the future population will be the trend in fertility . . . .

Among the individual countries, Poland is expected to have the largest growth. The medium series projection for that country indicates an average annual growth rate of 0.8 percent between 1976 and 2001, compared to 0.7 percent for Romania, 0.6 percent for Czechoslovakia, 0.5 percent for Bulgaria, and 0.3 percent for Hungary. According to the medium series, East Germany will have almost the same number of people at the end of the century as in 1976. These varying growth rates are expected to produce only one change in the size ranking of the six countries—East Germany will drop from third place to fourth place and Czechoslovakia will move up to third sometime during the late 1990's." (Baldwin, pp. 424 and 426.)

The reason for the current interest in the employment of foreign workers is related to the growing utilization of the labor supply in the COMECON countries. In most of the Eastern Block countries the growth of the labor force has slowed in the 1970's. Especially in the GDR (German Democratic Republic), Czecho-

slovakia and in Hungary, but also in certain branches and areas of the Soviet Union, an acute lack of labor is becoming apparent. Only in Bulgaria, Romania and Poland is the number of the employed in nonagricultural jobs increasing in the 1970's at the same rate as in the 1960's. Because of the varying degree of the utilization of labor reserves, it is plausible to consider the temporary migration of labor as a means of eliminating the labor shortage. . . .

In conclusion, it must be remembered that the employment of foreign workers within COMECON differs in many respects from the problem of guest workers in the West. The scale of the employment of foreign workers in the East is significantly lower, so that one can hardly speak of an influence of these workers on the economic development of the host country. Whereas in the West, in some developed industrial countries the fraction of guest workers within overall employment is so large that it represents a real growth factor. (Levcik, pp. 458 and 474-475.)

*8. What are the common and unique factors in the economic policies, institutions and performance of the nations in Eastern or Central Europe, including the six core members of CMEA, Yugoslavia and Albania? How have these factors changed over time, with special emphasis in the recent five year period? What are the relative short and long term prospects for change and success in economic development?*

Paul Marer has provided an overview of a series of individual country studies (pp. 523-566): *Albania* (Schnytzer and Kaser, pp. 567-646); *Bulgaria* (Allen, pp. 647-697); *Czechoslovakia* (Holesovsky, pp. 698-719); *GDR* (Keren, pp. 720-765); *Hungary* (Portes, pp. 766-815); *Poland* (Fallenbuchl, pp. 816-864); *Romanian Foreign Trade* (Montias, pp. 865-885); *Romania* (Jackson, pp. 886-940); *Yugoslavia* (Tyson, pp. 941-996).

Based on 1970-75 performance, the eight countries can be divided into two groups; the three relatively fast-growing countries of Romania, Poland, and Bulgaria, and the less rapidly growing other countries. Taking the 1965-76 actual and 1976-80 plan figures into account, Romania can probably claim the first place and Bulgaria second.

Interesting to note is the position of Yugoslavia and Albania. Yugoslavia places right in the middle, during 1975-76 performing about the same as Hungary. During 1965-70 Albania claims to have grown roughly on a par with Romania and Bulgaria, but its growth slowed during 1970-75 and its performance was roughly on par with that of Hungary. To be sure, Albania's exceptionally poor and incomplete statistics and the absence of a Western recalculation undermines our confidence in the data and makes it particularly difficult to compare its performance with those of other countries. . . . (Marer, pp. 535-536.)

To provide an overview for the eight East European countries on these issues, the task is more manageable and the comparisons more meaningful if the countries are divided into two groups: the Southern Tier, comprised of the Balkan countries of Bulgaria, Romania, Yugoslavia and Albania, which on the basis of official statistics, have been growing more rapidly than the rest of Eastern Europe (except Poland), and the Northern Tier, comprised of the more high developed by still very diverse nations located to the north of the Balkans, the GDR, Czechoslovakia, Hungary and Poland. . . . (Marer, p. 554.)

For the GDR, its ambiguous relations with the Federal Republic of Germany (FRG) are the chief determinant of its economic policy: "the GDR cannot help but feel that it is taking part in an unending economic race on whose outcome the very stability of the GDR may depend." (Keren, p. 721.) The GDR cannot permit itself to fall far behind the FRG in consumption standards, a consideration underscored by the Polish riots in December 1970 which led to a reassessment of the consumer's place in East Germany's development policy.

This dilemma also conditions the GDR's relations with the Soviet Union and the rest of CMEA, where its potential weakness vis-a-vis the FRG gives it strength and leverage. (Keren, p. 722.)

For Czechoslovakia, the restoration of economic normalcy and control became the chief determinant of economic policy after 1968; the country seems to be characterized by an absence of any new economic strategy or policy initiative.

Hungary has been occupied with guiding its economy within the framework of its comprehensive economic reforms, with reasonable success, as is argued in the essay by Portes.

Poland is the site of one of the world's most notable new developments since 1970: adoption of a rather extreme version of import-induced growth as a development strategy, with a large part of imports financed by credits. Two environmental considerations, external and internal, played a large role in inducing this new strategy. The external one was the signing of a "normalization treaty" with the FRG in December 1970, followed by the Soviet-American detente of the early 1970's which created a climate conducive to reorientation toward the West. The internal consideration was the confrontation in December 1970 between the workers and the government following the rise in food prices. The government then acquiesced in the combined demand of the workers' price freeze and substantial wage increase. This in turn ruled out an acceleration of investment growth based on internal resources—the strategy followed by Gomulka—and ushered in the import-induced growth strategy of Gierek, initially planned on a moderate but realized in a rather extreme version, as discussed by Fallenbuchl (Parts I-III). . . . (Marer, pp. 560-561.)

Two of the common, and in several countries the most serious, problems that remain to be solved are: (1) how to restore the economic imbalance created by the rapid rise in hard-currency imbalance created by the rapid rise in hard-currency indebtedness and other obligations, and (2) how to improve the efficiency of production, since productivity must generate a larger share of growth to compensate for slowdowns in the rate of growth of factor inputs—capital and labor. The two problems are interrelated . . . .

On the problem of improving the efficiency of the economy, all countries face difficulties. The systemic and organizational obstacles to improved efficiency are well known problems. It must also be recognized that the change from a predominantly agricultural to a largely industrial society has been so rapid in the Balkan countries (and to some degree in Hungary and Poland) that most workers are only one generation or less removed from agriculture. Consequently, the quality of the non-agricultural labor force is poor, which may now be a major factor hindering improved productivity . . . .

To improve productivity, a renewed emphasis has been placed in all countries on technological innovation and on reducing the share of labor-material and fuel-intensive products in output.

In the short to medium run, numerous factors external to the economies of the East European countries will affect their performance and prospects. But in the longer run, their economic performance will be decided largely by their ability to overcome systemic limitations to productivity improvements. (Marer, pp. 563-565.)

### *9. What new commercial and institutional relations have recently emerged in East-West trade, including relations between the individual nations and the United States?*

The CMEA countries are trying to overcome their relative isolation from the world economy, and to institutionalize their increasing economic relations by agreements with, or membership in multinational organizations. At present, however, these efforts are somewhat overshadowed by the developing countries' increasing urgent demand for a reorganization of the international economic order and by the expanding complex of negotiations and relations among the Western industrialized countries and the Third World. Yet, the international economic weight of CMEA members has become too great to discuss new forms for international economic relations without taking into consideration the needs of the State Trading countries . . . .

A further result of integrating CMEA countries in world economic organizations can be found in the fact that the institutions which were originally founded by the industrialized countries could cease to fulfill their original purpose (uniform articulation of interests to the outside, obligatory solution of problems within) because of divergent interests and economic systems. Under these conditions, these organizations would form a generally acceptable and thus broad context within which various regional and/or multipolar interest groups agree upon binding and functional arrangements. For this reason it would seem from the point of view of the Western industrialized nations that the inclusion of countries with lower levels of development and/or other social systems would only be plausible if at the same time an institutionally secured and strengthened formulation of their own interests can take place, for instance, within separate organizations (such as OECD), or by building factions within global organizations (such as the Club of Ten within the IMF).

In this context it seems conceivable that the OECD could cover institutionally the following subjects:

Formulation of a joint strategy *via-a-vis* CMEA countries and development of joint regulations for the conclusion of trade and cooperation agreements with them.

Safeguarding of reciprocity in trade relations with CPE's;

Determent of unfair trade practices (e.g., dumping).

Evaluation of possible effects of indebtedness.

Promoting multilateralization of East-West economic relations, and coordination of bargaining positions within multinational organizations.

Effectuating that the CMEA countries bear their share of obligations to the Third World.

Institutional relementations of East-West economic relations could also be imbedded in a new international order. In this context, the historical ideas on the creation of an International Trade Organization could be reconsidered. Such an organization could not only work on the solution of GATT problems, but also on problems of capital transfer, ("GATT for investment") and raw material supply.

Chances for such developments however appear to be slim. (Baumer, Jacobson, pp. 999 and 1018.)

Over the last decade, East-West commercial exchanges between market and non-market economies have increased in both volume and complexity. From simple trade transactions, these exchanges have evolved to include licensing, co-production, joint marketing, and even joint equity ventures . . . .

The progress which has been achieved in recent years, both before and after the signing of the Helsinki Accords, in the exchange of economic information, provision of business facilities, and stimulation of industrial cooperation has come about primarily through the efforts of the joint commissions. There is no doubt that the commissions can plan a significant part in furthering the implementation of the Helsinki Final Act. The joint commissions provide each of the signatories a mechanism through which they can strive bilaterally towards accomplishing its goals. Although the bilateral character of the joint commissions may involve much duplication of effort and prove less efficient than multilateral efforts, the work of each commission should reinforce the efforts of the others and thus hasten fulfillment of both the Final Act's and the commission's objectives. Concerted effort to implement the guidelines and recommendations of the Final Act, in turn, cannot help but infuse added vitality and effectiveness to the life of the joint commercial commissions. (Lotarski, pp. 1019 and 1041.)

Generally favorable policy changes in both Eastern and Western Europe have encouraged the growth and changing structure of intra-European East-West trade over the past decade. An ever greater proportion of East-West trade between the WE(12) and CMEA(6) consists of manufactured products. The sharp decline in the importance of CMEA (6) agricultural exports and the equally dramatic increase in manufactures exports reflects a significant transformation of East European export opportunities and capabilities. In the period 1965-1975 West European exports to CMEA(6) grew at an above average rate, but the East European countries on the whole were unable to increase their share of total WE(12) imports. These contrasting trends are reflected in the deteriorating intra-European East-West trade balance of the CMEA(6) countries. We suggested that a number of factors may help explain the relative stagnation of East European exports. Also noted was the intense competition among WE(12) countries for Eastern markets. At the policy level this is reflected in the growing importance over the past decade in governmentally-backed export credits in East-West trade. In the trade statistics this competition is apparent in changing export shares. In the past the degree of competition among the CMEA(6) for export markets in Western Europe has seldom been discussed. This competition could intensify in the post-Helsinki period, however, if in the context of increasing CMEA(6) indebtedness and continuing trade balance deficits, the East Europeans decide to make a determined effort to compete in more than a residual manner on a variety of West European markets. Whether East European balance of payments and indebtedness constraints will lead to a relative slowdown in the growth of intra-European East-West trade remains to be seen. (Wolf, pp. 1053-1054.)

### *10. What Western commercial practices have tended to foster or constrain the development of East-West trade?*

Unsatisfied Soviet and East European needs for Western technology, manufactured goods, and grain remain large, holding the prospect of enlarging Western

exports in the years ahead. Needs, however, are not the sole determinant of trade. Over the long term continued growth of East-West trade must rely on an ability of the East European countries to expand their hard currency earnings exports to the West, rather than on continuing the increase in the debt that has fueled much of the recent growth of Soviet and East European imports . . .

Rather, we believe that Soviet/EE ability to increase imports is, in the longer term, inevitably largely dependent upon an expansion of the dollar value of their hard currency exports to the West. Ability to accomplish this expansion is, in turn, dependent on at least four basic factors:

Increasing the physical volume of products available for export

Increasing penetration of Western markets, i.e., successfully selling increased quantities to the West

The rate of Western inflation

The terms of trade (the relationship of import to export prices) (Lenz, Kravalis, pp. 1057 and 1128.)

This paper has described the various import protection systems employed by selected Western countries. What generalizations can be made about these protective systems?

First, it can be said that none of the countries covered by this paper have left themselves defenseless.

Second, no country relies on a single instrument; all have several tools available to them.

Third, all the countries observed employ *ex ante* protection to varying degrees. The most restrictive of the types of *ex ante* protection are probably the discriminatory quantitative restrictions employed by the Western European countries, the denial of MFN by the United States, and the generally high Austrian tariff rate.

Fourth, all the Western nations covered by this paper maintain both general and special and protective systems against imports from state-controlled economies (although in the Austrian case this is not explicitly stated in the legislation.) In no case are the general and special systems for imports mutually exclusive—in other words both general and special measures can be employed against imports from state-controlled economy countries.

Fifth, an important feature of the various *ex post* protection systems is the degree of restrictive potential which has not yet been utilized. Given the number of instruments available both for general and special protection against communist imports, restrictive actions have been relatively restrained. Of course, this may be due partly to the protection provided prior to the fact of importation by the *ex ante* protective systems. (Taylor, pp. 1171–1172.)

### 11. How have East-West industrial cooperation (EWIC) and other new institutional forms influenced commercial relations?

Increasingly, however, industrial cooperation has become the generic term for a type of relationship which may occur at various levels, and the remaining terms have been reserved to denote variants of it, usually at the enterprise level . . .

Trade and technology transfer under EWIC agreements continue to face formal Western import barriers and export controls. While Western tariffs and quotas have on average been significantly reduced, they remain important in some sectors. They and other non-tariff barriers hit hardest at manufactures, which are the principal object of EWIC agreements. In the field of customs duties, preferential treatment for industrial cooperation has not been introduced in any Western country. On the Western side, the possibilities of tariff advantages have been limited to existing facilities, such as occasional exemptions and relief, temporary admission procedures, and so forth. These have been of limited usefulness. The Eastern countries have sought to gain improved access for cooperative exports through bilateral agreements with Western governments, and have succeeded in some instances in obtaining special quota exemptions for such products. Eastern countries have also granted customs preferences, especially in the form of duty-free entry for Western intermediate products which are re-exported after processing. (McMillan, pp. 1177 and 1218–1219.)

Countertrade is generally understood to mean a set of transactions wherein the hard currency claim on a communist country resulting from an import from the West is offset by a complementary or balancing Western purchase of Eastern products. In most countertrade transactions (the exception is barter) the Western good is not directly paid for by the Eastern good. Rather, the Western export is financed partially or in full by Western credit on a contract denominated in

hard currency, while the subsequent Eastern exports, under separate contract, generate hard currency that can be used to make payments against Western credits . . . .

It can be expected that countertrade will remain an important component of the East-West commercial relationship through 1980. A substantial growth in Eastern ability to export without the crutch of countertrade, or an increasing use by the communist countries of other financing techniques could diminish Eastern reliance on countertrade. However, it seems unlikely that this will happen during the next several years. More likely, the Eastern countries will continue to press Western firms for more and more countertrade, with increasing emphasis on compensation arrangements. Western firms, on the other hand, will continue to accede to Eastern countertrade demands in those situations which they perceive the individual transactions involved to be profitable. (Matheson, McCarthy, Flanders, pp. 1278 and 1303.)

The approach to economic and industrial cooperation varies from country to country depending on its motivations and particular economic aims. For example, to encourage long-term infusion of Western technology, management and capital, Romania has sanctioned the formation of joint venture enterprises on its national territory. While other communist countries do not permit the full joint ownership and management rights embodied in such joint ventures, they are receptive to other types of economic and industrial cooperation, and in some instances have adopted modified joint venture schemes. Hungary, for instance, has passed a law which permits economic cooperation between Hungarian and foreign firms whereby there is no equity ownership by the foreign investor, but the foreign party is allowed to invest in the joint company, participates in management and shares in company profits. Bulgaria, on the other hand, will not allow Western capital investment on its territory but permits profit sharing from joint cooperation activities. Most recently, Poland passed legislation which opens the door to foreign investment in certain domestic industrial enterprises. (Verzariu, Burgess, p. 1225.)

While a long-term cooperation agreement with the U.S. Government has been longer in coming, the Romanian Government has actively and energetically pursued the topic of cooperation with American firms in a number of different forms over the past several years. Recent meetings of the Joint American-Romanian Economic Commission endorsed the development of economic cooperation between the two countries including the establishment of joint ventures. (Burgess, p. 1246.)

Our analysis suggests that the decentralization of Romanian foreign trade activities was a properly conceived organizational response to the needs of Romania's international strategy of increased trade with the west and of expanded exports of manufactured goods. However, the decentralization was not successful and was eventually abandoned due to internal shortcomings including the inability to provide skilled personnel to operate the new organizations and because of the hostile external environment which greeted the new organizations.

Despite the decentralization, Romania does not appear to have abandoned its foreign trade strategies. However, because the current centralized organization does not appear to be appropriate for this strategy, we anticipate that either strategy or organization or both will be subject to further experimentation. One possibility, alluded to in Section III, is the possible use of cooperation to overcome the defects of the current organizational form. Whether cooperation can fulfill these hopes or not is, however, a question only the future can decide. (Brada, Jackson, p. 1276.)

12. *Financing increased commercial relations poses both unique and common problems for the countries of East Europe. How they have dealt with their balance of payments problems? How critical has short, medium, and long-term credit been to the trade levels of the countries of East Europe? With limits on the Eastern country disclosure of indebtedness how can accurate Western assessments be made?*

Heavy borrowing has pushed the hard currency debt of the East European countries up from \$5 billion at the end of 1970 to \$26 billion by yearend 1976. Although these countries had programmed large increases in capital goods imports to be financed largely with Western credits, indebtedness was not expected to reach such proportions. Soaring world commodity prices, the economic recession in the West, and extraordinary grain imports added greatly to the borrowing already planned by the East Europeans to help fuel economic growth.

With heavy debt burdens and continued uncertainties in their Western markets, the East Europeans are faced with difficult choices. In order to keep new borrowing down, they will have to carefully monitor imports from the West while attempting to maximize exports. Since economic growth depends to an important degree on imports of Western capital goods and industrial materials, cutbacks in import growth will impact negatively on the economic health of the East European countries. Maintaining a modicum of growth in consumer welfare will be necessary in order to minimize consumer discontent . . . .

A critical problem facing the East European leaders is how to keep up the imports of the industrial materials, agricultural products and consumer manufactures deemed necessary to meet economic growth plans and consumer requirements. Under the most favorable conditions—a strong recovery in exports and good harvests—most East European countries should be able to import the necessary industrial materials without economic or financial assistance. But they can do this only if they are willing to curb their imports of machinery and equipment. All the East European countries have, in fact, indicated their intention of allowing little if any growth in (or even cutting) imports of Western capital equipment. Such imports can be curbed for a time without much effect on economic growth, especially in Poland where there is a large backlog of equipment not yet in operation.

If recovery in the West is sluggish, the East Europeans face the prospect of having to cut back their economic growth. Poor harvests would make this all the more necessary. Under these circumstances, it is unlikely that the East Europeans could import the necessary industrial materials without outside help. The East Europeans' tendency to overstockpile will ensure an adequate supply of industrial materials for perhaps another year, but thereafter failure to raise imports would result in serious bottlenecks in production.

Moscow apparently is concerned about Eastern Europe's economic difficulties—especially those which threaten political stability—to provide some assistance, even at the cost of some of its own hard currency exports. Gierek's recent success in obtaining a large Soviet aid package—including additional deliveries of oil—could set the stage for assistance to other East European countries. Such aid probably would consist mainly of above-plan deliveries of raw materials and permissions to continue running deficits in trade with the U.S.S.R. The Soviets also might extend some hard currency credits, but these are not expected to be large. Whatever assistance they provide, however, probably will not be sufficient to free Eastern Europe from the need to closely control imports. (Zoeter, pp. 1351 and 1361-1362.)

Estimates of East European indebtedness in hard currency are founded on a few main sources of information. The two most important are quarterly reports by the Bank for International Settlements (BIS) of the assets and liabilities of commercial banks in 11 Western countries and data issued by the export credit guarantee organizations of Western governments. Other sources include occasional information on bank assets and liabilities from Western countries not reporting to the BIS; West German reports of the cumulative balance on clearing account with East Germany and on "official" long-term assets with the rest of Eastern Europe, reports by U.S. government agencies on outstanding credits given to finance agricultural exports; and data or the International Bank for Reconstruction and Development (IBRD) and the International Monetary Fund (IMF) on sums advanced to Romania. Published sources do not cover credits held by Western suppliers at their own risk, a *forfait* credits held outside commercial banks, and outstanding hard currency claims of East European countries on Western customers, but partial estimates can be made. Estimates are not included for East European indebtedness in hard currency to CEMA's International Bank for Economic Cooperation (IBEC) and International Investment Bank (IIB).

The above remarks apply generally to the sources and limitations of CEMA countries' indebtedness, including those of Lawrence Brainard, formerly with the Chase Manhattan Bank and presently with Banker's Trust; Professor Gaetano Stammati, President of the Banca Commerciale d'Italia; and those of Janos Fekete of the National Bank of Hungary. All such estimates reflect chiefly information that is widely circulated, most of it published. To be sure, confidential information is also used to bridge some of the numerous gaps in information. But it is now true, as it was not until quite recently, that most of the data needed are published. (Melson, Snell, p. 1370.)

13. *Do individual nations have unique commercial relations? How about Poland—the largest economy? And Albania, probably the most unique? Is the independent foreign political policy of Romania carried over to its foreign economic policy?*

The formation of the East-West Foreign Trade Board was a direct result of an amendment to the Trade Act of 1974 by Senator Long. The purpose of the amendment, as stated in the Congressional Record of December 12, 1974, "is to establish within the executive branch an interagency board to coordinate and oversee the orderly development of trade with nonmarket countries." . . .

With Secretary of the Treasury Blumenthal as Chairman of the Economic Policy Group as well as the East-West Foreign Trade Board, East-West trade policy is assured the strength of a coordinated role in U.S. Government activities. In addition, the Secretary's membership in the National Security Council fulfills the Board's mandate to monitor trade to ensure that it is in the best national interests of the United States. (Searing, pp. 1347 and 1349.)

Well before the issue of East-West trade became topical in the United States, the Chamber of Commerce of the United States had begun studying the opportunity for trade with the Soviet Union and Eastern Europe and the role the Chamber might play in helping the U.S. business community take advantage of the considerable potential for trade with this part of the world. The uniqueness of the Eastern European trading system, together with the widely held perception in the U.S. that progress in the commercial field must necessarily await progress on political issues, had inhibited a great number of U.S. firms from even considering the opportunities the Eastern European market had to offer. With the exception of a few experienced East-West traders in the United States, these opportunities were going to enterprising firms in Western Europe.

As some of the rigidities of the U.S. relationship with Eastern Europe began to disappear in the 1960's, U.S. business interest in Eastern European markets developed apace. Following an opinion survey which indicated overwhelming support for expanding trade with Eastern Europe among Chamber membership, the Chamber of Commerce decided to embark on efforts to stimulate discussion within the U.S. business community on East-West trade issues. In this context, the Chamber became the first organization of national prominence to come out unequivocally in favor of nondiscriminatory tariff and credit status for the Eastern European nations. (Wilson, Hasfurther, p. 1341.)

Since taking power in late 1970, the Gierk regime has imported massive amounts of Western machinery and technology to support an ambitious economic development program. However, Warsaw imported much more than originally planned, largely because of (a) above-plan imports of capital equipment, (b) unanticipated imports of Western grain in 1974-76, and (c) higher prices for imported goods. Although exports to the developed West increased, they did not keep pace with imports. The resulting huge trade deficits forced Poland to borrow more heavily than expected and pushed its net hard currency debt up from \$2 billion at yearend 1973 to \$10.2 billion by yearend 1976 . . . .

In the final analysis, Warsaw will be forced to cut its planned economic expansion program. The cuts will have to be handled carefully to minimize their effect on consumers and exports. Just how much freedom of action Polish leaders have in controlling imports that directly or indirectly affect consumption is uncertain, given the sensitivity of the population to any real or perceived reductions in its standard of living. Warsaw could ask Moscow for further assistance which could soften the impact of any reduction in planned growth. But, Moscow probably would want some sort of a *quid pro quo* in return for any aid. The Soviets probably would not press for greater Polish deliveries of hard goods—such as coal—because this would only aggravate Poland's payments position. At the very least, Polish leaders may feel more obligated to heed Soviet advice concerning management of the Polish economy. (Teske, pp. 1312 and 1322.)

Albania has always traded most with the donors of economic assistance. While this pattern is not untypical of relations prevailing between developing and developed countries, the fundamental framework has always been political. Before World War II, the dominant trading partner was Italy, which supplied 43 percent of Albanian imports in 1938 and provided the biggest export surplus to Albania

(covering 30 percent of its total deficit). The relationship became still closer during the Italian occupation (1939-43). Liberation in concert with Yugoslav partisans naturally led to intimate economic ties with postwar Yugoslavia. As has just been noted, Yugoslavia furnished assistance until 1948: in 1945 it monopsonised Albanian exports although furnished only 28 percent of its imports. The shift to Soviet and Comecon aid after 1948 greatly raised the share of that group, as the following Comecon percentages of Albanian trade show:

Year:	Imports	Exports
1950.....	100	98
1960.....	86	92
1963.....	32	39
1964.....	28	47

The contrast between the overwhelming trading links with Comecon in the fifties with their diminution after the turn of the decade reflects the termination of Comecon aid and the total break in Albano-Soviet commercial and diplomatic relations. The other members of Comecon did not, however, cease to trade. . . .

When silence enveloped the Albanian trade returns in 1964, China was supplying 63 percent of Albanian imports and buying 40 percent of its exports. The second largest partner among Comecon members was Czechoslovakia (10 percent of imports and 19 percent of exports). . . . (Kaser, p. 1328.)

14. *If the tariff restrictions were reduced, that is if Most Favored Nation treatment were extended to the nations of East Europe by the United States, how much might the exports from East Europe be increased? What other legislative and institutional barriers to increased commercial relations might be removed?*

At present, the United States is the only major Western industrialized country which has not granted Most Favored Nation (MFN) tariff treatment to all of the communist countries discussed in this paper. Poland has been receiving MFN treatment from the United States since 1960, and Romania since mid-1975. None of the other communist countries receives MFN from the United States.

Official representatives of the Soviet Union, and of other Eastern European communist countries that do not receive MFN treatment from the United States, frequently assert their belief that the granting of MFN would enable their countries to increase greatly their exports to the United States. In addition, they see in MFN a political signal or more relaxed relationships. . . .

Western tariffs are being slowly lowered, on the whole. It is rare for a tariff to rise. The Kennedy round of tariff cuts in the MFN rates of the GATT members promises to be succeeded by the Tokyo round. If the United States maintains its column 2 (non-MFN) rates intact, and fails to grant MFN to those communist countries that do not now have it, more and more of the affected CMEA goods may be expected to seek outlets in other Western markets. From the tariff point of view alone, as time passes without the granting of MFN by the U.S., the U.S. share of tariff-sensitive CMEA country exports would be expected to fall; if then, MFN is granted at some future time, the proportional rise in U.S. import share would be so much the greater—especially since the U.S. MFN rates would also have fallen in the meanwhile.

But quantitative restrictions change the whole picture in an unpredictable way. Unilateral quotas of various types, bilateral agreements, and multilateral guidelines all restrict the trade in any specific category of product for any reason of national interest. European Community restrictions on foodstuff imports suddenly lead to surges in CMEA sales to other I.W. countries, and there is a reverse effect when the U.S. negotiates quotas on footwear. No matter how strong the statistical indicators of tariff sensitivity may appear to be, the repercussions of granting MFN can be quickly modified, and the econometric predictions negated, by market disruption proceedings. (Raffel, Rubin, Teal, pp. 1396 and 1421.)

#### DATA AND STATISTICAL RELIABILITY

More information is now being published on the economies of East Europe. An annual statistical handbook for the member countries of CMEA is now being published. Moreover, considerably more information is being provided through international media, such as the ECE,

bilateral government commissions, and private Western commercial and financial channels. However, even by compliance with the Helsinki agreement, the data disclosed still falls far short of that commonly available among Western trading nations.

This lack of data raises the cost and risk for Western corporations dealing in Eastern markets. Especially important for governmental and commercial banking institutions is better information on the balance of payments, outstanding debts (especially in hard currency areas) and financial assets. These detailed data were not covered explicitly in the Helsinki agreements. However, Western commercial and banking interests have made progress in reconstructing the necessary data and publishing it. Reliable data is still needed to answer the legitimate questions of commercial and financial interests in the West:

- (1) What are the current and future East-West market prospects?
- (2) How much is owed to other creditors by a debtor nation?
- (3) What are the debtor nation's other assets if deliveries cannot be made as agreed?

In assessing economic performance in East Europe, there are still differences in methodology. Western concepts of national accounting require adjustment of data reported by the statistical agencies in East Europe. The methodology used in this compendium by Thad P. Alton and associates builds on that of Maurice Ernst (in his studies of East European accounts) and Abram Bergson (in work on Soviet accounts). The necessity to estimate for missing data and to make subjective judgments precludes the development of a fully defined, objective set of accounts. However, the reconstruction of Thad Alton and associates probably best parallels those national accounts compiled by Western economists for the Western industrial nations. As the statistical reporting of the East European nations improves in coverage and comparability, more reliance may be placed on the primary source data. The methodology of estimating Eastern indebtedness used in this volume illustrates the progress and differences that still remain. Joan Zoeter and Edwin Snell have some differences as the reader may observe. Some authors use figures of Lawrence Brainard developed at Chase Manhattan and Bankers Trust. More participation of Eastern bankers and economists would help to further improve the data and reduce the differences in opinion and methodology.

#### PROBLEMS AND PROSPECTS

The proliferation of economic claimants for goods and services runs well ahead of the ability of the output increases to satisfy demands. Modest economic growth in the face of rising expectations is not unique to East Europe. However, the options for improved performance are especially limited, and the mixture of costs and benefits, particularly complex. For example:

- (1) Imports from the West may facilitate improvement in the quality of output and generate exports capable of earning hard currency. However, levels of imports are sharply restricted by balance of payments deficits, and exports compete with orders from the Soviet Union and their own domestic economy.

(2) Increased priority to agriculture and consumer goods output may provide incentive for higher labor productivity and increasing real income for political stability. However, investment resources may not be easily shifted from defense and export industries to modernize and expand consumer related activities. Likewise, modest economic growth limits the incremental resource supply to be shared among the various resource claimants.

(3) Tourism and other invisible earnings may provide more hard currency needed to expand Western imports. However, investment in tourist facilities may compete with needed domestic programs, and conspicuous tourist expenditures may increase consumer dissatisfaction even though real incomes are rising.

The above choices still present too pessimistic a picture of East European economic prospects. Although the economies of East Europe are small, have insufficient raw materials and human resources, suffer from a technology lag with their Western neighbors, and must satisfy a revolution in rising consumer expectations, they do have assets. Many of their current leaders and planners are pragmatic and flexible. Many of the Eastern economists, statisticians, bankers, and managers are ingenious and highly professional. Central or Eastern Europe has always survived by persistence, ingenuity, and determination when surrounded by superior political and military powers. In spite of its precarious position between economic colossuses, the Soviet Union in the East, with its raw material monopoly, and the Common Market, Japan and the United States in the West, with their formidable technological leadership, East Europe may not only survive, but prosper.

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Part I. POLICY AND PERFORMANCE

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## EASTERN EUROPE: POLITICAL CONTEXT

BY IVAN V. MATUSEK

The latent instability always present in Eastern Europe<sup>1</sup> recently surfaced once again affecting most countries of the area. Rooted in the long suppression of civil rights, national aspirations and values and complicated by economic grievances, the challenge posed by dissidents to those in power has startled local authorities, alarmed their Soviet overlords, and raised new doubts among Western observers about the long-term ability of the existing Communist regimes to govern their populations. The question is not so much whether existing leaderships would be toppled—although in some countries this possibility cannot be altogether ruled out—but rather whether the system can adjust to cope with such pressures. Is it willing and/or able to react in an enlightened fashion, or will it regress into positions reminiscent of policies prevailing during the “cold war” days: severe repression at home and bitter hostility towards the West in foreign relations? In effect, will it jettison detente?

A case can be made for the conclusion that popular and official reactions to detente are indeed at the root of East Europe's recent troubles. The Final Act of the Helsinki Conference on Security and Cooperation in Europe (CSCE) to which all the regimes (except Albania) subscribed raised popular expectations throughout the area for a more decent way of life: freedom to travel to the West, greater exchange of information through availability of Western publications, and greater toleration on the part of the authorities toward such human rights as the freedom of expression, religious belief, and right of dissent and petition. Dissatisfaction with the rate of improvement in the standard of living was a major factor in some countries.

The atmosphere of new expectations and the known disparities in quality of life between the Western and Eastern parts of Europe caused considerable embarrassment to the authorities on the eve of this year's Belgrade Conference which is to review implementation of the provisions of Helsinki's Final Act by the 35 signatories.

The events—which amount to a challenge to Communist authorities—have by now directly affected the three northernmost countries—Poland, East Germany and Czechoslovakia—and evoked echoes in Hungary, Romania, Bulgaria, and Yugoslavia. A common trait in all is the hunger for denied human rights which the dissidents have articulated in petitions or manifestos and the awareness that similar demands are also being voiced in the USSR. In addition, the support and sympathy coming from West European communists, socialists and a number of Western governments give encouragement to the dissidents and reaffirm their belief in the righteousness of their cause.

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<sup>1</sup> The term Eastern Europe encompasses eight countries: Albania, Bulgaria, Czechoslovakia, East Germany, Hungary, Poland, Romania, and Yugoslavia.

The first country to be affected was Poland where an ill-advised attempt in June of 1976 to introduce massive price increases triggered workers' strikes and riots which could have toppled the Gierek regime were it not rescinded the very next day. This left the regime leaders weakened and in search of policies which would cope with economic realities while assuaging the ugly mood of the country. The regime sought a solution through a revision of its Five Year Plan (1976-80), scaling down the share of GNP earmarked for capital investment, increasing availability of food and housing, and pledging not to increase food prices for at least a year and then only after "consultations" with the workers. In order to increase the availability of goods and services for the populations the regime proposed an ideologically unorthodox promotion of private enterprise in the services sector and in agriculture. The new policy of consumerism appeared to have the approval of Moscow which also extended financial assistance.

The regime, however, started offering these carrots only after it had moved repressively against the workers who rioted in several cities: arresting some three hundred and dismissing about a thousand others from their jobs. As a result, a new bothersome situation arose. A group of well-known Polish intellectuals formed a Workers' Defense Committee which started collecting funds in order to assist the workers and their families to defend themselves against authorities who, it was claimed, were encroaching upon workers' rights. As the regime moved to harass and neutralize the group, the powerful Catholic Church took up their cause, attacking the regime from pulpits not only on this issue, but also for its denial of unhindered development of church life.

Apparently stalemated and fearing a potential coalescence of the three opposition groups, the regime proclaimed a conditional pardon for the arrested rioters and began to rehire the dismissed workers. In so doing it not only revealed a desire to avoid further disturbances at home but was also taking account of the significant amount of sympathy and support the movement evoked in the West.

In the two other countries—East Germany and Czechoslovakia—popular grievances and the resulting dissidence are nearly exclusively of a political nature. Both countries have traditionally enjoyed a much higher standard of living and relatively well-stocked shelves. Their grievances have to do with the oppressive and inhumane nature of the system. For example:

In East Germany, the regime has been unwilling to permit its citizens to travel to visit or join their relatives in the Federal Republic of Germany and the West in general; and, in addition, it has imposed on the many believers in this land of Luther restraints and prohibitions on the practice of their faith;

In Czechoslovakia, the intellectuals and citizenry sorely miss the democratic institutions that they cherished in the inter-war period and are depressed by the suppression of the popularly-shared aspirations to establish a "socialism with a human face" which were crushed by the Soviet-led invasion of 1968.

Since the August 1976 self-immolation of East German Pastor Bruesewitz, several leaders of the Evangelical Church have undertaken a self-critical, soul-searching reevaluation of its role in East

Germany. Its bishops issued a pastoral letter, read from pulpits throughout the country, which attacked the regime's official characterization of Bruesewitz's suicide as "an act of a madman" and associated the church with his unhappiness and deep concern over the education of East German youth and the Church's future under the system.

Nearly simultaneously, the expatriation of a dissident poet and songwriter (Wolf Biermann), following a performance in the FRG, caused more than one hundred East German artists and writers to sign a document protesting the authorities' action against Biermann. The regime reacted by arresting a few of the signers and harassing others, but most of the protestors apparently got by with only a warning. The main concern of the regime was the some 100,000 applications for emigration or travel to West Germany or the West. These were denied or simply not acted upon, and the regime increased its harassment of those underterred by the signals it was passing to the citizenry.

In Czechoslovakia, the challenge to the authorities was more specific and direct. At the turn of the year some 250 writers, journalists, academicians and expoliticians, most of whom were associated with the "Prague Spring", issued—and distributed at home and abroad—a document titled "Charter '77." The document is a human rights manifesto and accuses the regime of not honoring the obligations it assumed by subscribing to the Helsinki Final Act and to the two UN Human Rights Covenants which it has ratified and thus incorporated into its own legal code. The manifesto, which has since January 1977 nearly tripled the number of its original signatories, is clearly aimed at embarrassing the regime before world opinion just prior to the forthcoming "Belgrade 77" conference which is to review the signatories' fulfillment of the obligations contained in the Helsinki Final Act.

The timing of this action left the Prague authorities in a quandary: should they suppress the dissent and face criticism for their action at the "Belgrade 77" conference, or show restraint, temporize and hope for the best? The regime's answer thus far appears as ambiguous as the question. There has been considerable harassment of the signatories, but only one has recanted thus far, while others have added their signatures. Four individuals have been arrested. While some have been subsequently released, several may face trial or be expelled. The regime's case against them allegedly is not directly connected with the signing of the manifesto. At the same time, the regime has mounted a major propaganda campaign which claims that the signatories are "foreign agents" and that the movement is supported and initiated by "foreign powers" which are "interfering" in the country's internal affairs.

While the regime's charges are patently false, given the long history of local struggle for civil liberties and human rights, there is little doubt that the movement received considerable support from abroad. Appeals have been sent out—and support received—from the Communist parties of Italy, France, Spain, UK, Sweden and others, as well as from such West European socialist leaders as West Germany's Willy Brandt, Sweden's Olof Palme and Austria's Bruno

Kreisky. What the signatories may not have anticipated is the support from like-minded dissidents from within the communist systems of USSR and Eastern Europe. Nevertheless, the fact remains that the initiative has been seconded—despite the major risks for those voicing their support—by Andrei Sakharov in the U.S.S.R., the twenty-odd members of the Workers Defense Committee in Poland, some thirty intellectuals in Hungary, a handful of dissidents in Yugoslavia, a few—by now mostly expatriated—dissidents in Romania, and, even though indirectly, some hardy dissident souls in Bulgaria.

The "Charter 77" cause thus has found echoes throughout the area and represents the first instance since the Communist regimes came to power that disparate elements in Eastern Europe and the USSR have voiced common dissent with prevailing policies.

Given the prominent attention the dissent has received in the world's press and the criticism voiced by prominent intellectual figures and government officials in the West, the reaction of the East European authorities was a half-hearted mixture of intimidation and restraint, in the apparent hope that the problem will go away.

The years since the last Joint Economic Committee report assessed the situation in Eastern Europe<sup>2</sup> have seen a major expansion in East-West trade.

TABLE 1.—VOLUME OF EAST EUROPE'S TRADE WITH THE WEST  
[Turnover in billions of U.S. dollars]

	1965	1970	1975
Eastern Europe.....	6.6	12.3	35.5
Poland.....	1.1	1.9	9.2
Yugoslavia.....	1.6	3.4	7.9
East Germany.....	1.2	2.5	6.3
Romania.....	.6	1.4	3.9
Czechoslovakia.....	.9	1.6	3.8
Hungary.....	.7	1.2	2.9
Bulgaria.....	.4	.5	1.5

By 1975 the volume of East Europe's trade with the West exceeded \$35 billion being some 70 percent larger than Soviet trade with the West. East European imports were nearly seven times the level registered in 1965 while imports of machinery and equipment registered the largest increase. The most pronounced trade expansion was thus accounted for by imports of technology, representing a reasoned decision that without massive inputs of Western technology the area will not be able to realize its aim of economic growth and better consumer satisfaction. While East European imports boomed, exports continued to lag behind finding little acceptance in Western markets. This forced the importers to rely increasingly on Western credits and East European hard currency indebtedness rose sharply, reaching an estimated \$31.4 billion by the end of 1976.

<sup>2</sup> Reorientation and Commercial Relations of the Economics of Eastern Europe-JEC, August 16, 1974.

TABLE 2.—EAST EUROPE'S HARD CURRENCY DEBT

[In billions of U.S. dollars]

	1975 (estimate)	1976 (estimate)
Eastern Europe.....	24.4	31.4
Poland.....	6.9	10.0
Yugoslavia.....	5.4	6.5
East Germany.....	3.8	4.7
Romania.....	3.0	3.2
Hungary.....	2.1	2.6
Bulgaria.....	1.8	2.3
Czechoslovakia.....	1.5	2.1

By the end of 1976 the accumulated East European hard currency indebtedness was about double the level of its annual exports to the West, ranging from a quadruple and triple of annual exports to the West in the case of Bulgaria and Poland, to somewhat less than one year's level of exports in the case of Czechoslovakia. While thus far the ability of East European countries to borrow did not suffer thanks to prevailing high liquidity among the Western lenders, several regimes—among them Poland, Romania, and Yugoslavia—scaled down the originally planned purchases in the West, maintaining imports at approximately unchanging levels. It would appear safe to conclude that East European ability to earn hard currency will have to improve should East-West trade continue to grow and the hard currency indebtedness stabilize.

The U.S. share of the East-West trade boom remained small—about 7–8 percent of the total, while the U.S. trade surplus exceeded \$1 billion; U.S. banks underwrote about 10 percent of Eastern Europe's debt.

TABLE 3.—VOLUME OF U.S. TRADE WITH EASTERN EUROPE

[Turnover in millions of U.S. dollars]

	1965	1970	1976
Poland.....	101.3	167.9	942.2
Yugoslavia.....	211.0	264.1	684.7
Romania.....	8.2	79.8	448.4
Czechoslovakia.....	44.4	46.4	185.1
Hungary.....	11.4	34.5	112.1
East Germany.....	19.0	42.6	78.5
Bulgaria.....	5.3	17.7	76.3

Source: U.S. Bureau of Census.

A significant factor bearing on the relatively meager U.S. performance was attributable to restrictions imposed by U.S. legislation. The Jackson/Vanik and Long/Gravel amendments to the Trade Act of 1974 were attacked as discriminatory by the U.S.S.R. and its allies who—claiming interference in their internal affairs—refused to enter into agreements which would have enabled them to obtain the Most Favored Nations (MFN) treatment and made their exports more competitive. As table 3 shows, U.S. trade reached much higher levels

with countries which already have been receiving MFN treatment—like Yugoslavia and Poland; or have been willing—like more independent Romania—to conclude a trade agreement under the Trade Act's terms.

No other East European country has thus far shown willingness to follow in Romania's footsteps, although both Hungary and Bulgaria have made a considerable effort to settle outstanding bilateral issues. Their reluctance to proceed is attributable to the political and economic control Moscow exercises over these countries through party ties, multilateral institutions in the military and economic field (Warsaw Pact and COMECON), and as a major supplier of raw materials and a market for Eastern Europe's substandard manufactures.

As table 4 indicates, the trade of the majority of East European countries is still overwhelmingly oriented toward Moscow and other communist countries.

TABLE 4.—SHARE OF EAST EUROPEAN TRADE WITH COMMUNIST COUNTRIES

	[Percent of turnover]		
	1965	1970	1975
Bulgaria.....	77	78	77
Czechoslovakia.....	73	70	70
Hungary.....	68	65	69
East Germany.....	72	72	67
Poland.....	65	66	50
Romania.....	65	56	50
Yugoslavia.....	35	25	32

While the area's reliance on Moscow is rooted in the similarity of systems, self-serving economic considerations and Moscow's role as the ultimate guarantor of unpopular regimes, the latter—like the populations—chafe under Soviet domination, constantly seeking greater elbow-room in domestic and/or foreign policy. The extent of such strivings ranges from Yugoslavia—which maintains a fully independent posture in domestic and foreign affairs—through Romania and Hungary—where major departures from Moscow's line exist in foreign affairs or domestic policy—to Bulgaria, where policy differences are practically non-existent. An illustrative example is that of Poland, where unorthodox domestic policies (which condone a major role in the country's life for private enterprise in agriculture and the service industries, the toleration of dissident workers and of a powerful Catholic Church) combine with a close support for Moscow's foreign policy and a realistic appreciation by the authorities that Moscow is the ultimate guarantor of their continuation in power.

Throughout the area there is a certain basic similarity of attitudes rooted in the near-identity of institutions and overgrown bureaucracies that control both political and economic decisionmaking.

All policymaking power in Eastern Europe, as in the U.S.S.R., rests with the communist parties whose organizational structure, despite some differences in terminology, is practically identical with that of the U.S.S.R. Through an intricate system of cells reaching down to individual city blocks, factories, and offices the party not only exerts its influence over most of the daily life, but also maintains its hand on the pulse of society. At all administrative levels (state,

regional, district and local) it actually maintains a shadow government which from behind the scene leads ministries, drafts laws, and in effect hands down court sentences long before the responsible legislative, executive or judiciary organs address the subject. In some cases the party men actually hold both positions: behind the scene in the party, and in full public view as the President, the Prime Minister, or the Chairman of the Parliament. Some countries—for example, Romania and Poland—have attempted to streamline the structure by merging a number of party and government bodies below the national level.

In each country the approximately dozen full members and about half-a-dozen candidate members of the Politburo (or Presidium) represent the highest party authority and are the real policymakers in such varied fields as foreign or military affairs, economic matters, cultural policy, et cetera. The somewhat smaller Secretariat supervises the execution of Politburo decisions, directs the party's current work, and controls the movement of members up or down the party ladder. The First (or General) Secretary heads both the Politburo and the Secretariat and is the most powerful man in the party and the country. All Politburo and Secretariat incumbents are also members of the some 100-member-strong Central Committee—a sort of party parliament which by statute is the highest party authority when the party congresses (held every 5 years) are not in session.

In practice, the Central Committee plenums usually serve no other role than to rubberstamp Politburo decisions. However, if factional infighting develops in the party hierarchy, the Central Committee can assume crucial importance in that it decides the political survival or demise of one or the other warring Politburo or Secretariat faction. (For instance, the Czechoslovak Party Central Committee decided in 1968 to oust First Secretary Novotny and to replace him with Dubcek; the 1970 replacement of Gomulka with Gierek in Poland was similarly the result of a Central Committee action.) The statutory responsibility of the Central Committee or of the party congress to elect the Politburo or the Secretariat members has thus at times actually been discharged. For the most part, however, decisions of this type are usually made by the Politburo itself and rubberstamped by the party parliaments.

The Council of Ministers, composed of a prime minister, some half dozen deputy premiers, and 10 to 35 ministers is according to the constitution the "supreme organ of state administration." Actually, it is no more than the executor of party policies and instructions. According to the constitution, the Council of Ministers is appointed or recalled by the national parliament or the state president. In fact, the selection of incumbents is made by the party long before the parliament acts upon them. According to the constitution, the individual ministers "direct" specific branches of state administration, while the Council of Ministers can "rescind an order of regulation" issued by a minister. In practice, the unwieldy Council of Ministers rarely acts as a body, leaving this function to its Presidium (or Bureau) composed of the Prime Minister and his deputies.

The parliaments, known as National or People's Assemblies are for the most part unicameral bodies (in Yugoslavia and Czechoslovakia the parliament has two chambers) composed of some 250 to 400

deputies. The latter are elected usually for a 4- or 5-year term on a single national front slate. The slate includes some independents and puppet party candidates—where such parties exist—but in every instance the communists retain a majority on the slate, despite the fact that the nonparty candidates are handpicked and hardly less reliable than authentic party members. While according to the constitution the parliaments are the “highest organ of state authority,” they are in fact the lowest in terms of political power and, except in Yugoslavia, simply ratify legislation drafted by the party.

The principle of parliamentary representation is carried down the ladder of territorial organization parallel with the party structure. Thus, on the regional, district, and local levels there is a system of local government which is in essence a miniature of parliaments and Councils of Ministers under such names as Peoples Councils, National Committees, and so forth. These are usually elected at the same time as national parliaments.

Each Council or Committee exercises government authority over the area of its responsibility. Lower levels report and are responsible to their immediately superior level and ultimately either to the parliament or to the Council of Ministers.

Under the principle of no separation of powers and despite the constitutional claim that all judges are independent and subject only to the provisions of the law, the judiciary at all echelons in Eastern Europe is nothing more than an extension of the authoritarian party rule.

The purpose of these mechanisms is to provide the regimes with the most varied control over the population which, since the communist takeover, has been an unwilling captive of the system. The institutional framework is designed to provide close supervision of each individual by government and party agencies and is further augmented by an extensive network of secret and regular police, informers, party-dominated mass organizations (trade unions, youth associations, and so forth), and a system of indoctrination by public media and schools.

Yugoslavia, which broke with the Soviet bloc nearly thirty years ago, is a notable exception to this pattern. While it also does not allow opposition parties, it has evolved since 1948 a system of rule which, while institutionally similar to the one described above is significantly more decentralized, permissive, and responsive to public opinion pressure—especially from the half a dozen constituent nationalities. Apart from total rejection of Soviet hegemony and pursuit of a “nonaligned” foreign policy, the most notable Yugoslav departures from the Soviet-type system are the “guiding” rather than “directing” role of the Party; a system of “workers’ management” which gives employees in each enterprise a voice in managerial decisionmaking, including the dismissal or the appointment of a manager; and an economic system which assigns the market forces, profit, and the individual manager a substantially greater degree of influence than anywhere else in Eastern Europe. Another earmark of the system is the markedly greater willingness to experiment with existing institutions and to make frequent changes in the political and economic structure on a trial-and-error basis. Over the years, but especially since Khrushchev’s conciliatory 1955 Belgrade Declaration conceding that there

are "separate roads to socialism," these Yugoslav practices have attracted a number of imitators elsewhere in Eastern Europe (notably in Poland, Czechoslovakia, and Hungary). Most of these, however, proved rather shortlived, once they ran into Moscow's opposition.

The dissent which currently plagues Eastern Europe has made the authorities there realize that a new crisis of confidence in the East-West relationship appears to have arisen and that it could well come to a head at the forthcoming review conference in Belgrade. In approaching that conference the East European regimes face a dilemma. On the one hand, they desire to maximize their access to Western technology, Western credits and markets to promote their economic progress. In this context the maintenance of Western goodwill is a necessity. On the other hand, the dissident demands for a more relaxed, liberal rule at home is perceived as a threat to the system and a demand to relinquish tested methods of rule—at least in the more orthodox countries. The failure to grant at least some of these demands, however, courts an adverse reaction in the West, could upset state-to-state relations with Western countries, and ultimately repel Western economic partners. The reaction to this dilemma is likely to be a major test of the East European regimes' aptitude to govern. The outcome is by no means certain, except that the economic advantages would in all likelihood be secondary should there occur a real threat to the survival of the existing system. In addition, Soviet attitudes are likely to influence strongly all countries except such traditional mavericks as Yugoslavia, Albania, and Romania.

# EAST EUROPEAN ECONOMIES BETWEEN THE SOVIETS AND THE CAPITALISTS \*

By EDWIN M. SNELL

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## SUMMARY

Since 1960 the East European countries, like the U.S.S.R., have been engaged in "peaceful economic competition with the capitalist world." They have kept their economies growing at least as fast as similar Western economies—much faster, according to their claims—without fundamental changes in institutions and policies. This feat has been accomplished at the cost of serious imbalances in their economies—consumer expectations that cannot be met, large inventories of hoarded materials and unsold goods, and import requirements that outrun export capabilities. They cannot go on in this way very much longer without outside help to ease internal strains and trade deficits. Without help, debts to the West are likely to become unmanageable in a few years, forcing a slowdown in economic growth.

The Soviets still supply the greater part of East European imports of fuels, minerals and metals, and materials for light industry. But they are less and less willing to exchange such materials for machinery from Eastern Europe. The area's engineering industries, developed to meet Soviet requirements after World War II, have not kept pace with changing Soviet demand. And the U.S.S.R. itself has found it ever harder to produce enough materials to meet rapidly rising requirements for domestic consumption and export. Therefore, Soviet deliveries to Eastern Europe have grown very slowly since 1970, and have increasingly been contingent on return deliveries of materials. The East Europeans, in turn, have had to look more to the West for crude oil, minerals and metals, and grain, in addition to chemicals and feed supplements, of which the West has long been the major source of supply. Machinery sales get the headlines, but materials have made up the greater part of imports from the West, at present prices more than two-thirds.

While Soviet deliveries of materials have been slowing down, deliveries of machinery have continued to grow apace. The U.S.S.R. supplies a large part of East European imports of plant and equipment for mining, metallurgy, transport, agriculture, and public utilities. Soviet industry has done little, however, to meet the needs of the rapidly growing chemical industries in Eastern Europe or of the revived and expanding light and food industries. To develop these sectors in particular, the East European countries have had to turn to the West for capital equipment, parts, and components.

Since the mid-1960's, while remaining nearly in balance on trade with the Communist world and running surpluses with developing countries, the East European countries generally have run deficits

with the developed West—larger deficits than planned or deficits instead of planned balances or surpluses. As government credits and private bank loans became more readily available, running hard currency deficits became the chief—because the easiest—way of compensating for mischance and miscalculation. It was hardly necessary any longer to revise plans downward.

East European deficits have mounted in recent years in the wake of Western inflation and recession. Terms of trade with developing countries—chiefly OPEC countries—worsened significantly in 1973–74 as a result of huge increases in the price of imported fuels and materials, and those of the GDR and Hungary with the developed West also suffered. In 1975, moreover, the U.S.S.R. took advantage of the same price rises to impose them (with a 3-year lag) on trade with (and within) Eastern Europe; as a result all but Romania and Poland, themselves large exporters of materials, are worse off on balance in intra-CEMA trade. Recession in the West further burdened the East European countries' balance of payments. Although they soon responded by postponing or eliminating some imports, their trade deficits with the developed West shot up rapidly in 1974–75; in 1976, Bulgaria, Hungary, and Romania succeeded in reducing them substantially, but only Romania came close to eliminating its deficit.

Poland and Romania, with the most abundant raw material reserves in Eastern Europe, started out in the best shape to avoid large deficits with the developed West. But they have been correspondingly more ambitious in planning economic growth—Romania since 1959 and Poland since 1970. As a result, their hard currency debt service has risen to about one-half their hard currency exports, or roughly one-third their total hard currency earnings. Poland has gotten a long-term, low-interest loan from West Germany and special pension payments. It has in addition received a sizeable commodity credit from the U.S.S.R. Romania has substantial help from the IMF and the IBRD. With this assistance they can still meet scheduled debt service for the time being.

Bulgaria is in an even more precarious position, with debt service running to over two-thirds its hard currency exports of goods, or one-half its total hard currency earnings. Soviet help presumably has been and will be extended to help Bulgaria meet scheduled payments.

The other three countries—Czechoslovakia, the GDR, and Hungary—have been more careful, in view of their modest export prospects. Their debt service still runs at roughly one-third of hard currency exports of goods, or perhaps one-fifth of total hard currency earnings. None of them has needed special help, and all three will be able to handle debt service for a time.

East European economic plans for 1976–80, though calling for somewhat slower industrial growth than in the last five years, imply continued hard currency deficits for all countries and increased debt burdens for most of them. The countries have not faced up to this problem in their foreign trade plans, although Hungary has come close. Even on favorable assumptions, all are likely to have troublesome hard currency payments problems by the end of the period.

The volume of imports from the West will continue to grow more slowly than in 1971–75, but in most cases more rapidly than planned, probably averaging in the range of 5 percent to 10 percent per year.

Soviet policy continues to minimize increases in exports of materials to Eastern Europe, and all countries will have to increase imports of Western crude oil, minerals and metals, and feed supplements. Imports of most other commodities, including machinery, can be held down through probably not to the extent planned if economic growth is to continue on schedule.

With strong Western recovery, most of the East European countries should be able to expand the volume of hard currency exports considerably faster than imports. If recovery is slow, or temporary, that is probably not feasible. In either case, only Romania has a real chance of meeting export plans for the period—most of the others call for rates of increase two to three times the rates (in real terms) in 1971-75.

On the basis of these estimates, East European indebtedness, estimated at about \$25 billion net for the end of 1976, is likely to rise faster than hard currency earnings. Thus even with strong Western recovery, Bulgaria's debt burden will remain unmanageable without Soviet help; Poland's will probably become unmanageable without more help from some source; the other countries should be able to get by, although Romania will at least need help to recover from the 1977 earthquake. If Western recovery continues to lag for another year or two, all the East European countries may need concessionary loans or refinancing before 1980 unless economic growth is cut back sharply.

The West is likely to face the issue first when Poland asks for balance of payments assistance. That will pose the question of concerted action by major Western creditors to underwrite existing bank credits, control future credits, and stabilize trade. The problems of the other countries as well will have to be faced sooner or later if they are to continue "peaceful economic competition" with the West, one of the conditions of "detente" in Europe.

#### INTRODUCTION

Since 1960 the East European countries have been guided by the Soviet policy of "peaceful economic competition with the capitalist world." The adoption of this aim marked a break with the policies of the late 1940s and 1950s, designed to prepare the Soviet Bloc for an early economic and political crisis in the West. In turning to "peaceful economic competition," the Soviets were taking account of the growing economic and political strength shown by the developed West in the 1950s, which they attributed to rapid introduction of technological change, the "scientific-technical revolution." By following the same course in the U.S.S.R. and Eastern Europe, the leaders hoped to maintain steady, rapid economic growth, gradually strengthening their competitive position in the world. This long-run aim still guides East European economic policy, in spite of recent signs of economic and political weakness in the West.

East European leaders have held to this aim with the help of rapid growth in foreign trade, more rapid than foreseen. Since the mid-1960s the volume of trade has risen as fast as in the developed West; the rate of growth in the volume of trade has averaged more than one and one-half times the rate of increase in GNP. The East European countries have for some years, however, been having

heavier going in trade both with the U.S.S.R. and with the West, which play complementary roles in their trade. The main difficulty is that their manufacturing industries, modernized and greatly expanded, remain uncompetitive for the most part.

The present study traces the development of the increasingly critical trade and payments problems of the East European countries, indicates the likely impact on their economies and foreign trade and suggests the implications for Western policy.

### TRADE WITH THE U.S.S.R.

Soviet economic support has been a necessary condition of maintaining economic growth and political stability in Eastern Europe. During the late 1940s and 1950s, prewar export industries had languished; the new heavy industries developed in their place had little to offer the West. As a result, the East European countries were altogether dependent on the U.S.S.R., which was obliged to go on supplying most of their deficits in basic materials. The Soviets still supply the greater part of their imports of crude oil, coal and coke, crude phosphates, ferrous metals, wood and wood products, and natural textile fibers.

Nevertheless the Soviets recognized from the early 1960s that a large and growing loss was involved in the exchange of Soviet basic materials for East European machinery and equipment. In terms of Soviet (or *a fortiori* East European) relative costs, East European machinery and equipment exports were overvalued. The resulting loss, which Edward A. Hewett estimated at 38 percent of the value of Soviet exports to the area in 1960,<sup>1</sup> could be expected to rise with the rising costs in Soviet extractive industries; costs in the engineering industries, on the other hand, were stable or declining. The trade also worked to the disadvantage of the U.S.S.R. in terms of relative scarcities. Machinery production in Eastern Europe, developed in the postwar period to serve Soviet needs, no longer represented an essential source of supply; on the contrary, the U.S.S.R. could readily expand capacity to meet its own needs for most of the machinery and equipment imported from Eastern Europe. But the supply of basic materials was already a limiting factor in CEMA planning in the early 1960's and clearly was going to become increasingly critical during the decade, restricting Soviet growth and exports to the West.

The U.S.S.R. proposed in the mid-1960s to shift CEMA prices to a basis reflecting costs in major producing countries in the CEMA area, costs that the Soviets were for the first time beginning to reckon. But most East European countries objected so stoutly that the Soviet leadership gave up the proposal. CEMA prices for machinery continued to be high, perhaps reflecting initially high prices offered by Western suppliers and the subsequent price rise on Western markets. But prices of materials in CEMA fell in response to the fall in Western prices. As a result, Soviet terms of trade with Eastern Europe deteriorated significantly in the 1960's. As a partial offset, the U.S.S.R.

<sup>1</sup> Unpublished paper, Edward A. Hewett, "Prices and Resource Allocation in Intra-CEMA trade," cited by Paul Marer, "Soviet Economic Policy in Eastern Europe," Reorientation and Commercial Relations of the Economies of Eastern Europe, printed for the Joint Economic Committee, Washington, D.C., August 16, 1974, pp. 149-150.

in 1966-67 required "investments"—in effect, commodity credits—from Czechoslovakia and the GDR as a condition of their continuing to get Soviet oil.<sup>2</sup>

The main offset, however, stemmed from another bilateral approach, dating from about 1960, when the Soviets began holding back the exchange of materials for East European machinery. Under this approach, deliveries of basic materials have become to an increasing extent contingent on return deliveries of goods desired by the Soviets—raw materials, semimanufactures, foodstuffs, and consumer goods. The Soviet move, very gradual, toward balancing exchanges of "hard goods for hard goods" has had quite differentiated effects. The more industrialized the country, the higher the initial Soviet subsidy, the sharper the decline in the subsidy—and the slower the rise in Soviet deliveries of basic materials. Through the early 1970's the subsidy was still large for East Germany and significant for the other northern countries; Bulgaria and Romania, which at first were providing a subsidy to the Soviets, have been able to reduce it by the same means.

The shifts in machinery trade are illustrated in the accompanying graph, based on Soviet trade statistics, showing the gradual increase in Soviet exports as a percentage of Soviet imports in machinery trade with the more industrialized countries and the reverse in trade with Bulgaria and Romania. The impact of Soviet bargaining on trade in materials is shown in table 1, which indicates how the growth of Soviet deliveries of materials is related to their size and the reverse flow of materials. Increases in Soviet deliveries are also related to the Soviet economic situation, notably in 1971-74, when net deliveries of materials to the area actually declined a little, with a sharp drop in net deliveries to Czechoslovakia and Poland and a leveling off in net deliveries to the GDR. The contrast with the late 1960s is even greater when Soviet terms of trade are taken into account—these worsened only marginally in the early 1970s, as against the substantial deterioration from 1965 to 1970.<sup>3</sup>

<sup>2</sup> See Paul Marer, "Postwar Pricing and Price Patterns in Socialist Foreign Trade (1946-1971)" (IDRC Report 1), International Development Research Center, Indiana University, 1972, especially pp. 24-56. Marer points out (pp. 40-41) that there is no clear case that the East European countries paid higher than going prices in general for Western goods. There is a strong inference, however, that they initially paid much higher prices for machinery. Hungarian price indexes included by Marer (p. 81) show a sharp drop after 1963 in prices of machinery imported from the West, whereas "world market prices" for machinery rose substantially through the decade even after allowance is made for product improvement (pp. 89-90). As he also concludes (p. 58) and as the Hungarian indexes illustrate (p. 80), intra-CEMA prices for machinery held up through the decade.

<sup>3</sup> See Martin J. Kohn, "Developments in Soviet-East European Terms of Trade, 1971-1975," Soviet Economy in a New Perspective, printed for the Joint Economic Committee, Washington, D.C., October 14, 1976, pp. 73-75.

## Imbalances in Soviet-East European Machinery Trade

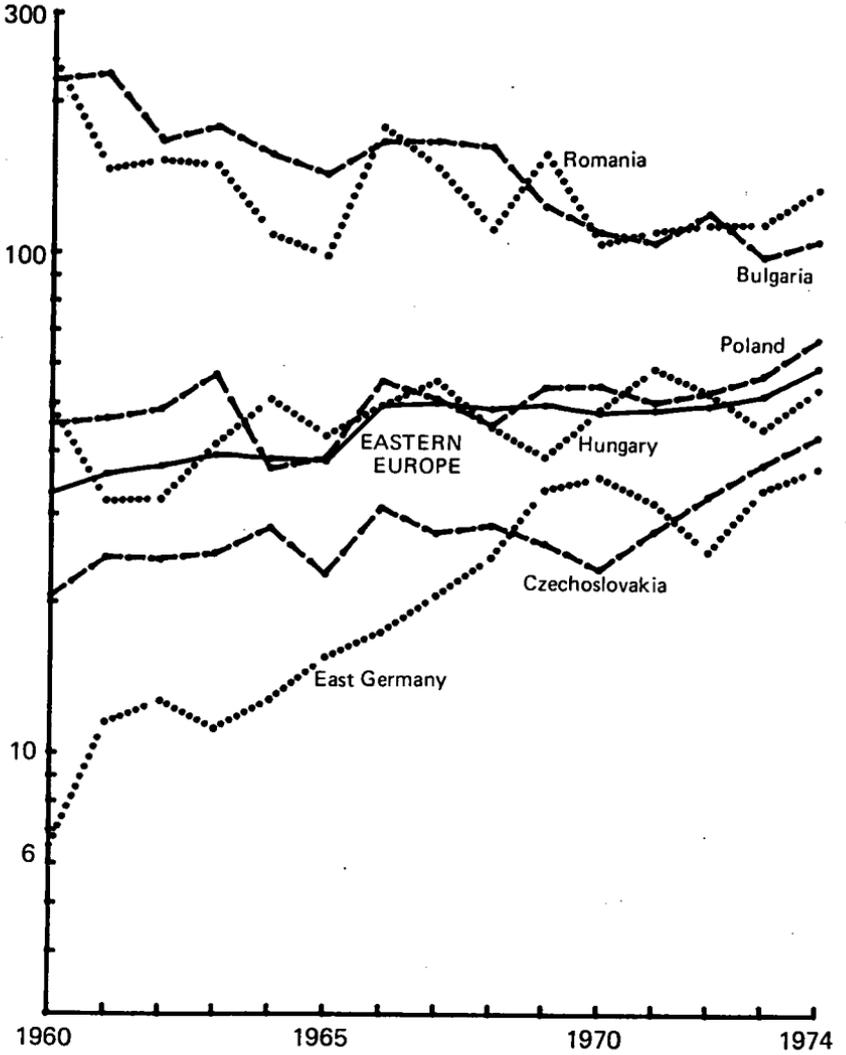
*Soviet exports as a percent of Soviet imports*

TABLE 1.—SOVIET EXPORTS AND IMPORTS OF MATERIALS IN TRADE WITH THE EAST EUROPEAN COUNTRIES,<sup>1</sup>  
1960 1965, 1970, and 1974[In millions of dollars; 1970 exchange rates]<sup>2</sup>

	1960	1965	1970	1974
<b>Bulgaria:</b>				
Soviet exports.....	152	296	542	783
Soviet imports.....	169	320	551	703
Difference.....	-17	-24	-9	80
<b>Czechoslovakia:</b>				
Soviet exports.....	480	666	952	1,067
Soviet imports.....	158	211	220	533
Difference.....	322	455	732	534
<b>GDR:</b>				
Soviet exports.....	918	1,112	1,339	1,496
Soviet imports.....	240	290	350	503
Difference.....	678	822	989	993
<b>Hungary:</b>				
Soviet exports.....	206	279	598	818
Soviet imports.....	46	128	223	409
Difference.....	160	151	375	409
<b>Poland:</b>				
Soviet exports.....	336	452	943	1,242
Soviet imports.....	158	229	327	689
Difference.....	178	223	616	553
<b>Romania:</b>				
Soviet exports.....	175	247	335	360
Soviet imports.....	242	278	236	280
Difference.....	-67	-31	99	80
<b>Total:</b>				
Soviet exports.....	2,267	3,052	4,709	5,766
Soviet imports.....	1,013	1,456	1,907	3,117
Difference.....	1,254	1,596	2,802	2,649

<sup>1</sup> Trade in CTN 2-8, including nonitemized trade. These groups cover fuels, minerals and metals, chemicals, building materials, live animals, wood, cellulose, paper, textile fibers and textiles, hides and skins, leather, tobacco, technical fats, oil seeds and meal, grain and other food raw materials, and processed food and beverages. The figures are derived from official Soviet trade statistics by subtracting machinery and equipment, itemized consumer goods, and estimated trade in military end items. See appendix A.

Some materials (fuels and foodstuffs) were, so to speak, "harder" goods than others (metals and chemicals) in terms of cost/price relations, changes in relative scarcity, and marketability in the West. The "harder" goods made up a larger part of deliveries of materials by some countries (notably the U.S.S.R., Poland, and Romania) and a smaller part in deliveries by others (notably the GDR). To consider such differences in composition would reinforce the arguments in the accompanying text.

<sup>2</sup> The use of 1970 exchange rates eliminates the effect of dollar devaluation in 1971-73.

As a result of these shifts in the composition of trade, the net cost of the trade to the U.S.S.R. was down to about 25 percent of exports in 1970, according to Hewett's estimate,<sup>4</sup> in spite of the deterioration of Soviet terms of trade. The cost was cut sharply in the early 1970s and has now disappeared as a result of the large increases instituted beginning in 1975 in relative prices for fuels, materials, and foodstuffs. These increases, resulting from a shift to "average world market prices" of 1972-74, imposed some worsening in terms of trade on all East European countries, ranging from perhaps a 20 percent decline in Czechoslovakia's to a very small decline for Romania.<sup>5</sup>

<sup>4</sup> Edward A. Hewett, *loc. cit.*

<sup>5</sup> Kohn, *op. cit.*, p. 77.

## TRADE WITH THE WEST

Trade with the West has complemented trade with the U.S.S.R. and within Eastern Europe. In particular the West has supplied modern oil refinery equipment, over two-thirds of the chemical industry equipment, sizeable amounts of electrical and electronic equipment, much of the machinery needed to modernize the neglected light and food industries; major deliveries for equipping the automotive industry; second-hand ships; about one-half the chemicals imported; growing shares of imports of crude oil, ores and metals, and grain; practically all the rising imports of feed supplements; and of course citrus fruits; coffee, and cocoa. This by no means exhaustive list suggests the key role that the West has played in modernizing the East European economies and assuring economic growth. The significance of Western plant and equipment deliveries is generally recognized; but in value terms, imports of Western raw materials and semimanufactures have been consistently greater—at today's prices more than two-thirds of the value of Western deliveries. A significant and growing share is provided by less developed countries.<sup>6</sup>

Reliance on the West has varied widely in the area from country to country. In real terms, well over one-half of Romania's imports have come from the West since 1967, and the share has grown. For Bulgaria, on the other hand, the share has been less than one-third. For the other countries the shares have lately been in the range between one-third and one-half, the share approached by Poland in 1975. Table 2 traces the real growth of imports from the Communist world and the West between 1960 and 1975. Only for Czechoslovakia have imports from the Communist world grown more rapidly than from the West.

TABLE 2.—GROWTH OF EAST EUROPEAN IMPORTS FROM COMMUNIST COUNTRIES AND FROM THE WEST, 1960-75  
[1960 equals 100]

	1965		1970		1975	
	Communist countries	West	Communist countries	West	Communist countries	West
Bulgaria.....	165	274	275	428	506	735
Czechoslovakia.....	152	145	219	224	311	277
GDR.....	131	132	221	278	315	401
Hungary.....	149	185	258	321	395	395
Poland.....	166	156	266	211	395	648
Romania.....	134	240	163	560	248	951

<sup>1</sup> Official East European statistics deflated for price changes. See appendix C.

In the effort to pay for desired—often badly needed—imports from the West, the East European countries have had to rely on exports of the same commodities increasingly desired by the U.S.S.R.—industrial raw materials and semi-manufactures, foodstuffs, and consumer goods. The developing countries, which play an important role in the trade of several countries (the conspicuous exceptions

<sup>6</sup> East European trade data are used in drawing the above conclusions. See Appendix B. The geographical distribution of East European trade is considered here only *ex post*. Much of the unplanned increases in East European imports probably came from the West. See Jozef M. van Brabant, "On the Determination of the Level and Distribution of Planned and Unplanned Trade in a Centrally Planned Economy," *Jahrbuch der Wirtschaft Osteuropas*, Munich/Vienna, Vol. 6, 1975, pp. 317-60.

are the GDR and Poland), have accepted a good deal of machinery on medium- to long-term credits with low interest rates, repayable in kind with crude phosphates, iron ore, copper, cotton, and sometimes oil seeds, fishmeal, and crude oil. Developed Western countries, however, which supply machinery and most of the chemicals, metals, and grain imported from the West, offer thin markets for East European machinery. Even Czechoslovakia and East Germany, the most competitive exporters, have succeeded in raising machinery exports to only a very modest share of total exports to the developed West—13 percent-14 percent in 1974<sup>7</sup>—even with large discounts. Moreover, the East Europeans have faced quantitative restrictions on sales of foodstuffs and agricultural products (especially meat and live animals) and consumer goods, especially in recent years. The GDR with, its privileged access to the West German market—and special advantage in trade with West Berlin—is a partial exception. Otherwise, countries with exportable raw materials and semimanufactures—notably Poland and Romania—have been in the strongest position in developed country markets. It was of course this advantage that enabled Romania to shift such a considerable part of its trade westward.

Price increases for materials on world markets in 1973-74 have magnified the advantages of Poland and Romania in particular, and the disadvantages of the GDR and Hungary. Poland's terms of trade have substantially improved with the developed West (except in 1973); but worsened slightly with developing countries (because of a sharp deterioration in 1973-74). Romania probably did as well, except for a substantial deterioration in terms with developing countries as a result of price increases for oil imports. For Czechoslovakia, the most significant worsening of terms of trade apparently was with the developed West in 1974. Bulgaria may have come out fairly well with the developed West, but terms of trade with the developing countries undoubtedly suffered. For the GDR and Hungary the price changes resulted in substantially worse terms of trade with both developed and developing countries.<sup>8</sup>

Nevertheless, the industrializing countries—Romania, Bulgaria, and recently Poland—have run the largest trade deficits with the West (relative to exports). An appetite for economic growth together with optimism about prospects for earning hard currency has led Ceausescu, Zhivkov (until held back by the Soviets), and finally Gierek to expand imports very rapidly, more rapidly than they could expand exports. To finance the resulting trade deficits had already become a problem for Bulgaria in the mid-1960s, and the Soviets, though ready to help out, also effectively discouraged further heavy reliance on Western imports. Romania, in some embarrassment over payments, sought and received Western (principally West German) refinancing in 1970 and again in 1973,<sup>9</sup> but continued to run large deficits through 1975. Finally, Gierek, who took over at the end of 1970 from the normally cautious Gomulka, has set a new record for East European trade deficits beginning in 1973, and has gotten into the same difficulties. The annual trade deficits with the developed

<sup>7</sup> The shares dropped in the 1970's as a result of major increases in prices of basic materials.

<sup>8</sup> See Appendix C.

<sup>9</sup> See Melson and Snell, p. 1369-1395.

West are shown in Table 3 for the years 1965-75. The hard currency deficits on current account were generally smaller, notably in the case of the GDR, through the early 1970s. Since then, however, balance of payments deficits have grown even faster than trade deficits as a result of mounting interest payments.

TABLE 3.—EAST EUROPEAN TRADE BALANCES WITH THE DEVELOPED WEST, 1965-75<sup>1</sup>  
[In millions of dollars]

	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975
Bulgaria.....	-86	-164	-100	-87	+4	-64	-53	-39	-77	-525	-742
Czechoslovakia.....	-43	-68	+4	-76	-13	-134	-146	-127	-247	-392	-577
East Germany.....	-7	-128	-64	+24	-57	-292	-281	-523	-820	-894	-1,042
Hungary.....	-59	+8	-25	-35	+22	-65	-241	-112	-50	-641	-770
Poland.....	+59	-16	-36	-58	-71	+61	+24	-375	-1,363	-2,369	-3,050
Romania.....	-93	-109	-295	-259	-250	-206	-146	-220	-248	-534	-511

<sup>1</sup> These data are official figures, adjusted only for GDR trade, to correct for the conversion of intra-German trade into East German mark (VM) from DM at parity. As a result of the treatment of transport costs, Polish deficits are understated and Hungarian deficits overstated.

### DEBTS TO THE WEST

The Western recession, coming after a period of boom, hit East European exports very hard in the latter part of 1974 and in 1975 to the apparent surprise of the planners, leading to greatly increased deficits. Price increases in 1973-74, together with the devaluation of the dollar in 1971 and the further decline in the dollar relative to strong currencies in 1973, also caused an increase in debts expressed in current dollars. Table 4 shows net hard currency indebtedness in 1973-75, probably estimated on the low side. Debts have increased further in 1976. Although hard currency trade deficits of some countries were smaller than in 1975—Romania's was much smaller—interest payments were larger, and earnings from invisibles did not keep pace. All in all, the rise in indebtedness appears to have been more than in 1975, bringing the total to about \$26 billion. Poland's debt, estimated at \$10 billion by the end of the year, rose the most rapidly.

TABLE 4.—ESTIMATED NET HARD CURRENCY INDEBTEDNESS OF THE EAST EUROPEAN COUNTRIES,<sup>1</sup>  
1973-75  
[In billions of dollars]

	1973	1974	1975
Bulgaria.....	0.8	1.2	1.8
Czechoslovakia.....	.8	1.1	1.5
GDR.....	2.1	2.8	3.8
Hungary.....	.9	1.5	2.1
Poland.....	1.9	3.9	6.9
Romania.....	2.0	2.6	3.0
Total.....	8.5	13.1	19.1

<sup>1</sup> Also reflects assets and liabilities on clearing account with the developed West (chiefly between the GDR and the FRG). See Zoeter, pp. 1350-1368.

According to these estimates, Bulgaria and Romania appear to be in the most difficult position, now, as in 1970. Bulgaria, with a debt service over two-thirds its hard currency exports of goods, or fully one-half of total hard currency earnings, can probably count on backing—and pressure to do better—from the U.S.S.R. Romania,

with a debt service approaching one-half the value of hard currency exports—or more than one-third of total hard currency earnings—has received very useful help from the IMF and the IBRD in its capacity as a “developing country.” Both countries have had some financing from the Middle East, and both reportedly renewed requests for West German assistance as well—to no avail—in 1975.

Poland, with a debt service ratio more than the Romanian level, but with greater hard currency earnings from invisibles, would seem to be in a more tenable position. A problem, however, is the sheer size of the Polish debt. Although ample government-guaranteed credits are still available to Poland, the volume of private bank credit, more than half the total debt, is larger than the banking community would wish. Poland, however, has had timely West German help in the form of a government-guaranteed 25-year loan of 1 billion DM (\$425 million) at 2½ percent interest, along with an agreement for pension payments of 1.3 billion DM (\$550 million)<sup>10</sup> over 3 years. The old obligations to the U.S. under Public Law 480, down to \$246 million at the end of 1975, can be stretched out. The extension of a Soviet commodity credit of \$1.3 billion could take the pressure off the Gierek regime for a while. Soviet deliveries of grain and additional raw materials and consumer goods will help Poland to pacify consumers and maintain output without adding to deficits with the West. Such help, even though temporary, should also provide some reassurance to Western bankers.

The other three countries, despite a rapid growth in indebtedness since 1970, do not face awkward problems in the near future. Debt service is roughly one-third of hard currency exports, or perhaps one-fifth of total hard currency earnings. Czechoslovakia, whose chief obligations are short- and medium-term supplier credits, has an excellent position in the Eurocurrency market. The GDR has arranged for the first large project credits with West German government backing. Its credit is rated as good in financial markets. Hungary, the East European pioneer in Western financial markets, is more heavily dependent on bank credit, but the reputation of Hungarian bankers remains solid. All three countries have arranged loans on favorable terms in the last year.

#### ECONOMIC PERFORMANCE AND THE IMPLICATIONS

Since 1960, the less industrialized countries of the area, with their stronger trade position, plus greater labor reserves and growing populations, have generally had the highest growth rates. They have moved some way toward “equalizing” output and consumption per capita within the region, a long-term objective supported by the USSR and endorsed by CEMA. The lower growth rates in the other countries have nevertheless been respectable by West European standards.

Economic growth rates have stabilized since the mid-1960's except for a drop in Bulgaria and a rise in Rumania and Poland, reflecting a slowdown in industry in several countries—all but the GDR and Poland—mostly offset by improved performance in agriculture. In table 5, official rates for “national income” (Net Material Product) are compared with estimates of GNP by Thad P. Alton and his group.<sup>11</sup> The estimates of the Alton group are roughly comparable with Western growth statistics.

<sup>10</sup> At end 1975 exchange rate.

<sup>11</sup> L. W. International Financial Research, Inc., New York. Cf. Alton, pp. 199–266.

TABLE 5.—COMPARISON OF GROWTH RATES IN EASTERN EUROPE AS SHOWN IN OFFICIAL INDEXES OF NMP AND THE ALTON INDEXES FOR GNP 1961-65, 1966-70, AND 1971-75

[Least squares rates of annual growth]

	Official NMP			Alton GNP		
	1961-65	1966-70	1971-75	1961-65	1966-70	1971-75
Bulgaria.....	7.0	8.6	7.9	6.9	4.8	4.0
Czechoslovakia.....	1.2	6.9	5.7	1.4	3.6	3.5
GDR.....	3.5	5.2	5.4	2.4	3.1	3.3
Hungary.....	4.5	6.8	6.3	3.6	3.1	3.8
Poland.....	6.0	6.0	9.9	3.9	3.8	7.3
Romania.....	8.9	7.8	11.3	4.1	4.5	6.1

The slowdown in industry is masked by official statistics, as a result of a mounting upward price bias in the deflated series used, which reflect the pricing of new products at inflated values. But Alton's estimates have an opposite bias, resulting from the use of available data in physical terms as a basis for indexes; the selection often has a conservative bias, and data in physical units of course do not reflect model changes and other upgrading of products. On the whole, however, the Alton series are better indicators of trends. They are shown in table 6 along with rates of growth for employment and investment. Romania stands out as the one country in which the growth of employment and investment has been maintained at high rates throughout the 1960's and early 1970's.

The East Europeans seem to have been quite successful since 1965 in substituting capital for labor. The results presumably reflect better management, a better educated labor force, greatly modernized plants and processes, and a better mix and flow of current inputs. Western example has had a pervasive influence and imports from the West have helped a lot, not only in modernizing plant and processes but also in improving the supply of current inputs.

TABLE 6.—GROWTH OF PRODUCTION, EMPLOYMENT, AND INVESTMENT IN INDUSTRY IN THE EAST EUROPEAN COUNTRIES<sup>1</sup> 1961-65, 1966-70, AND 1971-75

[Average annual increase in percent]

	1961-65	1966-70	1971-75
<b>Bulgaria:</b>			
Production.....	10.8	7.9	4.0
Employment.....	3.7	3.4	.8
Investment.....	13.7	12.6	2.1
<b>Czechoslovakia:</b>			
Production.....	2.3	4.0	3.4
Employment.....	1.7	1.4	.8
Investment.....	3.4	4.6	7.7
<b>East Germany:</b>			
Production.....	3.7	3.6	3.7
Employment.....	-4	.8	.6
Investment.....	7.1	8.6	3.4
<b>Hungary:</b>			
Production.....	5.6	3.6	2.9
Employment.....	2.8	3.5	1.2
Investment.....	4.4	8.7	6.5
<b>Poland:</b>			
Production.....	5.5	5.4	8.2
Employment.....	3.9	3.4	2.1
Investment.....	8.0	7.7	22.0
<b>Romania:</b>			
Production.....	9.8	9.4	8.2
Employment.....	4.4	3.9	4.4
Investment.....	13.6	10.5	12.2

<sup>1</sup> Growth of production as estimated by the Alton group. Other figures are official.

The East European countries have all taken in stride the enormous increase in complexity involved in planning and managing economies in rapid technological change, with increased involvement in foreign trade, while making minimal changes in institutions and doctrines. Planning and administration have evolved, and professional competence has risen steadily, but the characteristic inefficiencies of the system have remained—high material consumption coefficients, inflated inventories, cost overruns and long time-lags in investment, variable quality and unsuitable mix of output. In 1960, hardly anyone expected such great changes with so little basic adaptation. The reformers who felt that the example of the West would open up the societies of the area, transforming them into social democracies, have been disappointed. The “technocrats,” while more numerous than ever, have not acquired the political influence they were expected (by some) to achieve; nor have they made much impression on the characteristic inefficiencies of the system.

Disappointment of official fears and popular expectations of the early 1960's resulted in a general letdown in the area, especially after 1968. The renewal of protests during the last year came as a surprise, not least to the leaders themselves. They are concerned, unavoidably, not so much because they fear that the general dissatisfaction and cynicism could easily be politicized as because they are uncertain whether they can continue to provide the economic growth—and the additional consumer goods and services—essential to the stability of their regimes.

Steady and substantial increases in personal consumption since 1960 have left life still anxious and difficult, but easier and more enjoyable for many. Consumption has increased with output, though more slowly. The increase in consumption, as in output, has been faster in countries with lower initial levels.

How fast the growth has been is hard to say, again, as with output. Official statistics are biased upward by the heavy subsidies given to slow growing types of consumption (basic foods, housing, and public transport) and the no less heavy taxing of many rapidly growing types of consumption (better quality soft goods and durables), although the effect is somewhat offset by rapid growth of consumption of subsidized animal products. Moreover, official price indexes are generally based on a conservative sample of goods and services, largely excluding “new products,” the classification and pricing of which has sometimes been quite inflationary. Without the resources of the official statistical services, it is not practicable to deal with all these problems.

To judge from the Alton GNP measures, shown above in Table 5, the growth of personal consumption would have ranged from something over 2 percent to something over 4 percent per year. Converted to a per capita basis, his average annual rates for GNP for 1961–75 are as follows (percent):

Bulgaria.....	4.7
Czechoslovakia.....	2.6
GDR.....	3.0
Hungary.....	2.8
Poland.....	4.1
Romania.....	4.4

Fixed capital investment, inventories, and, by and large, state consumption increased faster than GNP or consumption. But Alton's estimates have some downward bias, as already noted in connection with Table 5; besides, these countries have run significant current account deficits since the mid-1960's, which helped to finance the growth of consumption, as of investment. With these offsets, one may then guess that the growth of consumption in these countries over the period, measured for comparison with their Western neighbors, ran within one-half a percentage point of the rates shown.

One adjustment that can, and probably should, be made is to raise the rate for Hungary to at least 3.5 percent—i.e., well above that for the GDR—and to drop that for Poland a little. Fairly full official series for personal consumption are available for both Hungary and Poland. As it happens, the Polish series yields exactly the rate shown; and even if reweighted to reduce the bias from subsidies and taxes, the rate would run close to 4 percent.<sup>12</sup> The Hungarian series yields a slightly higher rate than the Polish, but if reweighted the rate would drop more.<sup>13</sup>

Other countries publish much less satisfactory data on personal consumption—less complete and more questionable. From what is available, however, it would seem that the adjusted ranking is correct. That is, the growth of consumption in Czechoslovakia—in 1948 by far the most prosperous country in Central Europe—has been the slowest, though that by no means holds for Slovakia. All the others have shown more rapid growth than the GDR, Hungary by the smallest margin, Poland by rather more—entirely as a result of the spurt since 1970—with Bulgaria showing the fastest rate of growth, significantly faster than Romania's.

Who then is best off today? Travelers have seen in Budapest greater evidence of prosperity than even in Leipzig or Prague. An important point is involved: the Hungarian leadership alone has tried consistently to make more use of prices as a basis for rationing consumer goods, though not housing. In Budapest, as a result, salable goods are available in the shops and all can afford them on occasion. Leaders in other countries have held back, whether out of deference to "socialist" policy—and Soviet practice—or whether to avoid trouble with the workers over price increases. This caution, or inertia, is a weak spot in East European consumer policy, a big factor in shortages of desirable goods—not only meat—weakening the effectiveness of wage incentives and at times threatening popular outcry.

In a way, then, the travelers are right. Nevertheless a rough measure of the goods and services consumed would still show the GDR with the greatest personal consumption per capita, followed by Czechoslovakia, Poland and Hungary, Bulgaria, and Romania, in that order; Table 7 shows estimates of consumption relative to the GDR for all these countries. Except for the GDR and Romania, at the two extremes, the ranges overlap. In general, the differences between

<sup>12</sup> The series used in *Rocznik statystyczny*, 1976, p. 83; total consumption from personal income at 1971 prices, divided by the mid-year population figures on p. 29. The rate of 4.1 percent reflects a flat rate growth from the 1960 to the 1975 level; the trend would yield a slightly lower rate.

<sup>13</sup> *Statistikai évkönyv*, 1975, p. 319; the per capita series at constant (1968?) prices excluding "social benefits in kind."

pairs of countries are smaller than they were 15 years ago—between Czechoslovakia and the GDR and between Bulgaria and Romania the differences have increased. Hungary and Poland have changed places.

TABLE 7.—*Levels of personal consumption in Eastern Europe,<sup>1</sup> 1975*

[GDR = 100]

	<i>Level</i>
Bulgaria -----	65-75
Czechoslovakia -----	80-90
GDR -----	100
Hungary -----	70-80
Poland -----	75-85
Romania -----	40-50

<sup>1</sup> Rounded estimates reflecting data discussed in the text. For the relationships in the early 1960's, see Maurice Ernst, "Postwar Economic Growth in Eastern Europe," *New Directions in the Soviet Economy*, printed for the Joint Economic Committee, 1966, vol. IV, *The World Outside*, pp. 885-89.

#### NOTES

Similar relationships are obtained by the use of the purchasing power parities with West Germany given (for all but Romania) by Statistisches Bundesamt, *Internationaler Vergleich der Preise für die Lebenshaltung, Reihe 10 in Preise/Löhne/Wirtschaftsrechnungen*, and by the DIW for the GDR. All these series are based on direct comparisons at much earlier times, updated by index numbers.

Different relationships are obtained for 1973 by the use of 1975 noncommercial exchange rates used in CEMA. Relative to the GDR, the position of Hungary is better, that of Romania about the same, and that of other countries less good (to about the same extent). See Maria Elisabeth Ruban et al., *Die Entwicklung des Lebensstandards in den osteuropäischen Ländern* (DIW Sonderheft 108), West Berlin, 1975, pp. 16-18, 90-91.

Independent comparisons of purchasing power for these countries (all but Romania) in 1966-67 exhibit much the same relation to the estimates of Statistisches Bundesamt and the noncommercial exchange rates. See Berta Backe-Dietrich, "Die offiziellen Devisenkurse und die Kaufkraft einiger RgW Länderwährungen," *Jahrbuch der Wirtschaft Osteuropas*, vol. 1, Munich/Vienna, 1970, pp. 427-34.

Cf. Austrian estimates of net monthly wages of workers in 1973, showing the same rank order, but of course different relative values. B. Askanas, H. Askanas, F. Levck, *Entwicklung und Niveau der Löhne in den RgW-Ländern. Mit einem Lohnniveauvergleich mit Österreich*, No. 21 in reprint series, Österreichisches Institut für Wirtschaftsforschung, Vienna, 1976.

The East Germans are by far the best off in housing—a benefit conferred by the great outflow of people in the 1950's and the almost static population since then. They and the Czechs share the top position in apparel and in consumer durables (and repair services). The Hungarians and Poles approach them in consumption of food-stuffs. Bulgaria ranks a little below Hungary and Poland in all respects, and Romania ranks well below all other countries.

The East Europeans, although aware of a substantial rise in consumption since 1960, and of persistent national differences, mainly take these for granted. What concerns, sometimes infuriates, them is that after three decades of "socialist" rule, the supply of goods and services is insecure and often substandard, and that some people are much better off than others. Standing in line, waiting years for cars and apartments, searching the shops, bribing the butcher and the repairman are still a way of life. For the many families in which all adults work, often moonlighting as well, there is never enough time. Senior party officials and other privileged people do not face these difficulties; those with generous relatives in the West can avoid some of them; pensioners can hardly make ends meet when they can no longer work.

The regimes acknowledge these complaints, act when necessary to keep things under control, but avoid grappling with the basic issues. The price changes that would help to move the economies toward

equilibrium would be unpopular. If better goods and more services are to be produced, someone will have to be rewarded, perhaps disproportionately. Greater, not less, inequality is likely to result.

Comparisons with the West are part of the East European background, especially in East Germany and Czechoslovakia. Changes in consumption since 1960 reflect the effort of the leaders to satisfy popular desires for a Western style of life, so far as possible. The gap between East and West European living conditions has narrowed since 1960 for the industrializing countries, but rather the reverse for the GDR and Czechoslovakia, judging from comparisons for the 1970's for Poland (with France), Hungary (with the U.S.), Romania (with France), and East Germany (with West Germany).

Poland has done a substantial amount of work on international comparisons since the mid-1960's.<sup>14</sup> A recent series of studies, based on detailed comparisons for Paris and Warsaw, yielded the judgment that in 1972, Polish consumption was 46 percent of the French level (37 percent with zloty weights and 57 percent with franc weights).<sup>15</sup> By category the comparison runs as follows (Polish as percent of French consumption):

Food.....	69
Beverages.....	40
Tobacco.....	98
Apparel.....	45
Lodging.....	35
Hotels, restaurants, and the like.....	53
Utilities.....	52
Hygiene and medical care.....	30
Transport and communications.....	23
Recreation and amusement.....	28
Cultural services.....	70

A very elaborate comparison of Hungarian and U.S. consumption in 1970 forms part of the ambitious IBRD International Comparison Project (Phase One), under the direction of Irving B. Kravis, one of the pioneers in international comparisons after World War II. Via U.S./West German comparisons, Kravis finds Hungary's personal consumption at 54 percent of the West German level, "bridging" at the aggregate level, or about 50 percent bridging at the detailed category level, which somewhat reduces the "transitivity" problem.<sup>16</sup> It should be added, however, that Kravis much prefers comparisons that include education, health, and other welfare services by government, excluded from the personal consumption as defined in the usual Western accounts (U.N. Standard National Accounts, or SNA). On that basis, Hungary's consumption is raised to 62 percent or 63 percent of West Germany's. Much the same shift would occur, of course, in comparisons of other East European countries with Western Europe.

No such large-scale effort lies behind the Romanian/French comparison for 1970. The starting point is offered by an apparently careful comparison of prices in Paris and Bucharest in August 1969, which

<sup>14</sup> See UN, ECE, "Comparison of Level of Consumption in Austria and Poland," Conf. Eur. Stats/WG.22/19, 17 June 1968.

<sup>15</sup> Ewa Cwil, "Spozycie przez ludność oraz ceny artykułów i usług konsumpcyjnych w Polsce i w Francji," *Wiadomości statystyczne*, No. 8, 1976, p. 3. See earlier studies in the same journal, notably one by Eugenia Krzczkowska in No. 8, 1975.

<sup>16</sup> Irving B. Kravis et al., *A System of International Comparisons of Gross Product and Purchasing Power*, Baltimore, 1975, pp. 50-3, 172-3, and 234.

showed 3.23 leu to be worth about 1 French franc (the geometric mean of 3.55/1 with a French market basket and 2.93/1 with a Romanian market basket).<sup>17</sup> This is applied to estimated Romanian personal consumption of 7,800 lei in 1970 (for which more data are available than 1969), a rough estimate obtained in a rather involved way.<sup>18</sup> The very approximate result is that per capita Romanian consumption was about 25 percent of the French level (about 9,500 francs) or by fairly easy transition, 28 percent of West German consumption.<sup>19</sup>

Finally, a tentative estimate may be made for East Germany—that per capita consumption was about 63 percent of the West German level in 1972. This is based on a very careful West German estimate of East German aggregate personal consumption at domestic prices, a quite useful contribution, and a West German estimate of the purchasing power parity between the GDR mark and the DM, obtained by the rather perfunctory continuation of a long series that once was supported by extensive direct comparison.<sup>20</sup>

If one goes back to Maurice Ernst's often cited estimates for 1960,<sup>21</sup> it appears that relative to West Germany, Hungary was at least as well off by the 1970's, Poland somewhat better off, and the GDR somewhat less well off (West German consumption = 100):<sup>22</sup>

	1960	1972
Germany, Democratic Republic of .....	68	63
Hungary .....	49	(1970) 50
Poland .....	42	52

The old and new comparisons may themselves not be altogether comparable, of course. But for what they are worth, they do indicate that the less industrialized countries of Eastern Europe have somewhat lessened the gap with their Western neighbors. It is a very slow process, however, heavily dependent on continued trade deficits with the developed West.

<sup>17</sup> Georges Caranfil, "Le pouvoir d'achat du 'leu' romain," *Revue de l'est*, No. 2, 1970, p. 154.

<sup>18</sup> See Appendix D.

<sup>19</sup> Kravis et al., *op. cit.*, p. 234 shows French personal consumption at 11 percent higher than the West German level in 1970.

<sup>20</sup> Estimated GDR personal consumption per capita in 1972 times the estimated purchasing parity (geometric mean) of the East German mark (M) relative to the DM for a 4-person working class family, divided by per capita purchases of West German private households. A 4-person working class family in the GDR has below average consumption per capita, and the purchasing parity drops sharply with rising incomes. Moreover, the ratio reflects relations at the end of 1972 rather than the average. On both accounts the comparison presumably favors the GDR. The personal consumption figure is estimated by a scholar from Deutsches Institut für Wirtschaftsforschung (DIW) in 1967 marks, converted to a per capita basis and adjusted upward by the official East German purchasing power index to put the underlying 1972 data back into 1972 M. For estimated personal consumption see Herbert Wilkens, *Das Sozialprodukt der Deutschen Demokratischen Republik im Vergleich mit dem der Bundesrepublik* (DIW Sonderheft 115), West Berlin, 1976, p. 175. The purchasing power parity is also a DIW estimate, as given in Peter Mitscherling et al., *System und Entwicklung der DDR—Wirtschaft* (DIW Sonderheft 98), West Berlin, 1974, pp. 245-46. Wilkens himself uses such a purchasing power parity for a conversion for 1967, moving forward the estimate to a range of 66 percent to 73 percent of the West German level in 1974, using alternative assumptions about the reliability of the GDR constant price series. The present calculation follows: 81.6 billion M divided by 17,043 million, times 100.8, times .945 divided by 7,214 DM.

<sup>21</sup> Maurice Ernst, "Postwar Economic Growth in Eastern Europe," *New Directions in the Soviet Economy* printed for the Joint Economic Committee, Washington 1966, Vol. IV, (The World Outside) p. 887.

<sup>22</sup> The Polish/West German relation is inferred from the Polish/French relation. See Kravis, *op. cit.*, p. 234, updated to 1972 by national indexes.

## PLANS FOR 1976-80

In the face of worsening trade prospects the East European leaders still hope to continue economic growth at rates close to the average since 1960. Some are betting heavily on their own efforts and early Western recovery to reduce or eliminate hard currency trade deficits; others expect continued hard currency deficits, but are relying on the West (and, at a pinch, the USSR) to help finance them. The Soviets have urged lower growth rates, but to little effect; they are waiting to see what happens.

The decision to try to maintain earlier growth rates could be explained as the effect of inertia; the plans were drafted before the full impact of Western inflation and recession, and it would have been very awkward to make an abrupt shift in economic policy on short notice. But more than inertia was involved. The East Europeans have reaffirmed earlier policies in the hope that they can be maintained. The alternative, to cut back growth rates quite sharply, would hit at popular expectations in a way that none of the leaders would willingly do. Moreover, the acceptance of a darker view of the short- and medium-term future would involve a new balance of power within the regimes; perhaps in the end, new leaders.

Apart from Bulgaria, the East European countries have planned for lower rates of industrial growth than those achieved in 1971-75, much lower for Poland. To be sure, the drop in rates is a doubtful sign of expectations or intentions. The upward bias in official growth statistics mentioned earlier reflects in part factors (such as overpricing of "new products") not present in the plans. The men that manage the East European economies are aware of the resulting *ex post* bias, indeed count on it to help "overfulfill" the plans, as all countries except Bulgaria did in 1971-75. Nevertheless, all but the GDR and Hungary did choose slightly more modest goals in planning for the present period, as indicated by the following comparison with plans for 1971-75 (annual averages in percent):

	1971-75	1976-80
Bulgaria.....	9.2-9.9	9.2
Czechoslovakia.....	6.0	5.7-6.0
Germany, Democratic Republic of.....	6.0	6.0-6.3
Hungary.....	5.7-6.0	5.9-6.2
Poland.....	8.5	8.2-8.4
Romania.....	11.0-12.0	10.1-11.2

In agriculture, however, all the regimes but Poland and Hungary expect to maintain, perhaps increase, the growth of 1971-75, weather permitting. The average annual grain harvest in the area is scheduled to be somewhat greater than in 1971-75; continued, though slower, growth is projected in the livestock sector. These goals are feasible, given an average run of weather and projected inputs and investment. The net result is that all but Poland hope, with luck, to approach the rates of growth in "national income" achieved in 1971-75; Bulgaria hopes perhaps to approach the higher rates of 1966-70. Comparisons of planned increases in 1976-80 with actual increases in 1971-75 are given in Table 8 for NMP, industry, and agriculture.

TABLE 8.—PLANNED RATES OF GROWTH IN EASTERN EUROPE FOR NMP, INDUSTRY, AND AGRICULTURE IN 1976-80 COMPARED WITH RATES IN 1971-75

	Actual 1971-75			Plan 1976-80		
	NMP	Industry	Agriculture	NMP	Industry	Agriculture
Bulgaria.....	7.9	9.1	3.2	7.7- 8.5	9.2	4.0
Czechoslovakia.....	5.7	6.7	2.7	4.9- 5.2	5.7- 6.0	2.7-2.9
German Democratic Republic.....	5.4	6.4	(2.7)	4.9- 5.4	6.0- 6.3	(4.7)
Hungary.....	6.3	6.5	4.7	5.4- 5.7	5.9- 6.2	3.2-3.4
Poland.....	9.9	11.6	4.9	6.9- 7.2	8.2- 8.4	3.0-3.6
Romania.....	11.3	13.1	4.7	10-11	10.1-11.2	5.1-7.6

A general slowdown in industrial investment is projected, except in the GDR and Romania, on the strength of the large projects already completed and by no means fully exploited, and those still under construction. Industrial employment will grow very slowly, except in Romania, and almost the same increases in labor productivity will have to be attained as in 1971-75. Plans for increased crop yields and greater productivity of livestock call, however, for substantial further investment; agricultural employment will continue to drop. Across the board, so far as one can tell, the plans assume steady increases in labor productivity and sharply increased efficiency in the use of fuels and materials.

At the same time, the leaders are promising a continued rise in consumption. The main attention is given to food, housing, and services. Further increases in meat consumption, if at somewhat lower rates, are featured; other projected improvements in food supply are less talked about. Housing shortages are to be eased, especially in major industrial centers. Encouragement, and some resources, will be provided to handicraft cooperatives to improve services, especially repair services.

These are long-standing priorities. The regimes are not proposing to do much to ease disequilibrium in the consumer market. They seem ready to allow modest wage increases and are hesitant to raise the heavily subsidized prices of food and other necessities. Increases are planned in retail trade, especially of high priced durables, with little prospect of improved mix and quality. In other words, the leaders hope to be able to contain, rather than to reduce, consumer dissatisfaction.

All evidence suggests that planning has gone forward on a wide front and in depth, if on familiar lines. Much of the published discussion relates to ways of reducing imports and expanding exports—in the energy sector, ore mining and metallurgy, chemicals, engineering, and agriculture. Still, one would hardly conclude from all the publicity that the planners and the leaders themselves do not know where the imports are coming from to make it all work.<sup>23</sup>

The difficulties are serious on both fronts—in trade with the “socialist” and with the “capitalist” worlds. In spite of some relaxation in 1975 to cushion the effect of higher prices for materials, the USSR continues to push the exchange of “hard goods for hard goods.” A substantial rise in gross deliveries of materials is in store only for Po-

<sup>23</sup> Compare with following discussion of East European foreign trade plans that of Heinrich Machowski, “Aussenwirtschaftspolitische Ziele der RGW-Ländern,” *Europa-Archiv*, 10 February 1977, pp. 85-93.

land, Romania, and Bulgaria, which can make the required counter-deliveries. These countries, in turn, have little to spare for the others, except in exchange for "hard" goods or currency.

Czechoslovakia, the GDR, and Hungary all expect only a slow increase (up to 3 percent per year) in imports of materials from CEMA. Soviet deliveries of oil are scheduled to rise slowly, and the commitments probably will be met even if there is a shortfall in Soviet oil production. Natural gas deliveries are due to rise substantially. Many other imports, however, already have leveled off or are declining; the first improvement will come in 1979-80, when the payback begins on the large new "investments" in the U.S.S.R.

Trade in machinery, on the other hand, will continue to boom and will evidently provide a sharply rising share of total East European machinery imports. Consumer goods will also bulk larger in trade, especially in exports to the U.S.S.R. Machinery and consumer goods will account for most of the large East European "investment" in Soviet industry, and must be large enough in some cases to offset continued deterioration in terms of trade.

The net inflow of materials from the West, which was expanded in 1971-75 to help compensate for the leveling off or decline in net Soviet deliveries, cannot be increased at such rates in coming years. Even with rapid increases in exports of manufactures to the West, there would be a major—and in some cases, unacceptable—rise in hard currency debt. Hungary projects a considerable growth in the volume of imports from the West, more rapid even than in 1971-75. The other countries project lower rates of growth—or no growth—in imports from the West, and Poland and Romania are significantly increasing their dependence on the Communist world. The volume of exports to the West, on the other hand, is to grow faster than ever before, except in the case of Romania; for Poland at twice the rate of 1971-75.

Not surprisingly, machinery purchases are to decline as a share of imports from the West; even Hungary, with the highest planned rate of growth for imports from the developed West, projects at best a small increase for machinery.<sup>24</sup> The other countries plan little or no increase or a decline in the volume of machinery imports from the West. On the other hand, machinery is to lead growth in exports to the West. Much the same pattern is probably to be found in projected trade in consumer goods. An effort to maximize the net inflow of materials is an essential feature of the larger effort to reconcile the goals for economic growth with balance of payments constraints. It dictates the redoubled emphasis on trade with developing countries, which offer the best market for manufactures, as well as increased reliance on payback in manufactures when buying machinery from developed countries.

Estimates of the rates of increase projected by the East European countries in trade with the Communist world and with the West are given in Table 9. These figures reflect published information on increases in constant prices, together with inferences where data have not been given. Published figures showing much higher increases

<sup>24</sup> As indicated by Foreign Trade Minister Jozsef Biro, in a lecture in Vienna in mid-September 1976. "Business Eastern Europe," October 1, 1976, p. 309. The total projected, almost \$3 billion in 1976-80, compares with \$0.6 billion (CTN 1) or \$.55 billion (SITC 7) in 1975.

in trade overall, with the Communist world, or with the CEMA area allow for anticipated price increases, at least with CEMA, during the period. In some cases, base year figures referred to may be expected or planned, not final, results for 1975 (or 1971-75). The price basis is generally not specified: a 1974 price basis is often used in trade with the U.S.S.R.<sup>25</sup>

TABLE 9.—PLANNED GROWTH OF EAST EUROPEAN TRADE WITH THE COMMUNIST WORLD AND THE WEST FROM 1975 TO 1980<sup>1</sup>

	Annual percentage increase in volume			
	With the Communist world		With the West	
	Imports	Exports	Imports	Exports
Bulgaria.....	5.9	8.6	NA	NA
Czechoslovakia.....	4.9	7.2	2.8	9.0
German Democratic Republic.....	4.7	7.9	2.9-3.4	10.0-10.7
Hungary.....	7.4-7.7	7.0-7.3	6.7-7.0	9.9-13.2
Poland.....	9.3	9.9	0	14.5
Romania.....	13.2	13.4	*0	*7.5

<sup>1</sup> Estimated from published speeches, draft directives, and plan announcements. See appendix E.

\* Developed countries only.

### PROJECTED BALANCE OF PAYMENTS WITH COMMUNIST WORLD

The balance of payments implications are suggested by cumulative trade balances calculated from the projected increases. The cumulative balances for trade with the Communist world are shown in Table 10. They do not, of course, reflect all transactions. In particular, the surpluses probably are overstated because of the exclusion from trade projections (and trade agreements) of military end items, which are, however, included in the base year figures for 1975.

TABLE 10.—CUMULATIVE BALANCES ON PLANNED TRADE OF THE EAST EUROPEAN COUNTRIES WITH THE COMMUNIST WORLD,<sup>1</sup> 1976-80

[In billions of dollars]

	Exports	Imports	Balance
Bulgaria.....	24.1	23.2	+0.9
Czechoslovakia.....	34.6	34.3	+ .3
German Democratic Republic.....	46.5	43.2	+3.3
Hungary.....	23.8-24.0	25.6-25.9	-2.1- -1.6
Poland.....	41.3	38.0	+3.3
Romania.....	18.2	17.0	+1.1
Total.....	188.5-188.7	181.3-181.6	+6.8- +7.3

<sup>1</sup> Based on CEMA trade statistics for 1975 and planned trade increases shown in table 9, above, projected on a straight line basis.

With allowance for such errors and omissions, the cumulative balances in Table 10 should provide a useful view of scheduled balances with the Communist countries. The overall export surplus of Eastern Europe—\$6.8 billion—\$7.3 billion—is a little smaller than the independently calculated imports surplus of the U.S.S.R. with the CEMA area during the period, about \$8.2 billion.<sup>26</sup>

<sup>25</sup> For these estimates, see appendix E.

<sup>26</sup> See appendix F.

The East European surplus is explained mainly by participation in joint projects in the USSR; the probable exclusion from the balances, as noted above, of military end items, on which the USSR runs a substantial export surplus; and the projection of some East European net loss on terms of trade with the USSR over the period.

The gross amount of East European participation in Soviet projects was put at \$4.6 billion (3.4 billion rubles, probably at 1975 prices).<sup>27</sup> But this amount includes some investment in labor and hard currency; moreover, the payback in commodities (oil, natural gas, asbestos, iron ore, ferroalloys, phosphate fertilizers, and cellulose), which is to run 11 years or more, will begin in 1979-80.<sup>28</sup> As a further offset the U.S.S.R. will be participating in joint projects in Eastern Europe with a total CEMA contribution of \$3.3 billion (2.5 billion rubles).<sup>29</sup> Accordingly, the net balance of payments effect of joint projects was probably projected at less than \$3 billion.

Net Soviet exports of military end items could easily run \$6 billion or more in 1976-80.<sup>30</sup> Some of the trade projections in table 9 may take such deliveries into account, and it is in any case quite uncertain what effect projections of military trade had on the trade projections.

The worsening of East European terms of trade could have been taken into account to the extent of over \$2 billion, mainly at the cost of Czechoslovakia, the GDR, and Hungary.

Finally, it is reasonable to suppose that the East European countries were expected to run some net surplus on invisibles, in spite of a probable deficit on transport. Payback on earlier projects and Soviet deliveries in consideration of goods and services provided to Soviet forces in Eastern Europe would be two sizable items.

The division of the overall surplus among the East European countries raises various questions, partly because of a lack of information on their participation in one another's joint projects. Bulgaria's surplus of \$0.9 billion is about the same as its projected participation in joint projects.<sup>31</sup> The GDR's \$3.3 billion is larger than the \$2.4 billion (8 billion Valuta Mark)<sup>32</sup> to be put into projects in other CEMA countries, mainly of course the U.S.S.R., but it may not be large enough. The GDR still has a net deficit on transport, chiefly resulting from payments for transit across Poland and for maritime services, although it has been reduced by earnings from other East European countries. GDR terms of trade with CEMA will also worsen during the period. Earnings from services to Soviet forces in the GDR now roughly offset the value of Soviet arms deliveries.

Poland's \$3.3 billion surplus, on the other hand, seems large, especially in view of substantial Polish net earnings on invisibles. Planned net participation in Soviet and East European projects is not known; judging from Poland's share of the projected payback it would be less than \$2 billion. Poland does, however, run a considerable deficit on military account, mainly with the U.S.S.R., and that may help to account for the projected surplus.

<sup>27</sup> See Appendix F.

<sup>28</sup> Sometimes earlier. For example, Soviet deliveries of oil to Poland of 1 million tons a year for help in building a pipeline from Byelorossiya to Lithuania are to begin in 1977.

<sup>29</sup> V. Karpich, "Proizvodstvenoto sutrudnichestvo mezhdu stranite ot SIV—osnova za progresivnoto razvitiie na tehniya stokoobmen." *Vunshna turgoiia*, No. 9, 1976, p. 10.

<sup>30</sup> Here and below, see Appendix F.

<sup>31</sup> FBIS "Daily Report," Eastern Europe, January 5, 1976, p. C1.

<sup>32</sup> *Neues Deutschland*, December 17, 1976, p. 3. Earlier given as 7 billion-8 billion VM.

The \$0.3 billion surplus for Czechoslovakia, on the other hand, seems low, given participation in CEMA projects of \$2.1 billion, or somewhat less than the figure for the GDR.<sup>33</sup> Moreover, Czechoslovakia appears to run a hefty deficit on military end items with the U.S.S.R. and a substantial deficit on transport. At 1974 prices Czechoslovakia was in fact expected to run a surplus of more than 1 billion rubles, but the price changes in 1975 almost eliminated it. Part of the explanation is the payback from contributions to Soviet projects in earlier periods;<sup>34</sup> moreover, the section of the natural gas pipeline built in Czechoslovakia presumably counts as part of its contribution to joint projects.

The unique deficit shown for Hungary raises a question. Like Czechoslovakia, Hungary is making a significant "investment" in the U.S.S.R., though doubtless a smaller one; has a net deficit on invisibles; and is a net importer of military end items. Moreover, terms of trade with CEMA, mainly with the U.S.S.R., will deteriorate by 9 percent over the period, according to Hungarian estimates. Thus a substantial offset of some kind is implied. Part could come from surpluses earned in 1972-74. Some of the offset is doubtless in the form of Soviet and East European participation in projects in Hungary.<sup>35</sup>

Romania's estimated balance is a sign of its increased involvement in CEMA. The balance seems large enough to provide for a modest commodity credit to be "invested" (net) in the U.S.S.R., some repayments to the PRC, and small imports of arms.

#### PROJECTED BALANCE OF TRADE WITH THE WEST

The cumulative balances with the West, shown in Table 11, reflect the striking differences in outlook and policy already mentioned. The deficit projected by Hungary, at most well above the hard currency indebtedness at the end of 1975, comes close to reflecting the import requirements and export capabilities implied in the economic plans. The balance for Bulgaria is unknown, though substantial deficits have probably been projected. Preliminary versions of the Polish trade plans went as far as Hungary's recognizing that the minimum likely growth of imports (4 percent to 5 percent per year) and the maximum export growth (15 percent per year) would still result in a cumulative trade deficit with the West nearly as large as 1975 hard currency debts; other variants projected much larger deficits. The latest

<sup>33</sup> According to a statement of spring 1976, 13 percent of the increase in investment, domestic and foreign, in 1976-80 over 1971-75 was to be accounted for by contributions to joint projects. *Rude pravo*, 14 April, 1976, p. 4. According to the directives for 1976-80, domestic investment was to rise by 194 billion crowns (from 606 billion in 1971-75 to 800 billion in 1980), *Rude pravo*, 21 April, 1976, special supplement. The Czechs normally convert amounts in foreign prices into domestic prices to reflect "internal reproduction price equivalents," or at a rate of about 17.5 crowns = 1 ruble. The rate in 1967 was 18/1; from then till 1974 it dropped only 0.7%. It probably dropped a little more in 1975. (For the 1967 rates, see Miroslava Koudełka, Dušan Libnar, Miroslav Havel, "Peněžní vstahy v ČSSR," enclosure to *Hospodářské noviny*, No. 47, 6 December, 1968, p. 6. For changes from 1967 to 1974, see Zdeněk Orlicek, "30 let československého zahraničního obchodu," *Zahraníční obchod*, No. 5, 1975, p. 5.)

Investment in the U.S.S.R. in 1971-75 was 350 million rubles (see note 34, below), or 6 billion crowns. Thus the total increment in investment in 1976-80 would be about 216 billion crowns (194 - 6 + 28), and the participation in CEMA projects in 1976-80 would be 28 billion crowns, or 1.6 billion rubles. Of this, participation in projects in the U.S.S.R. accounts for 1 billion rubles. See František Marš, "Vzájemný obchod mezi ČSSR a SSSR a realizace plánu integračních opatření," *Zahraníční obchod*, No. 11-12, 1976, p. 2.

<sup>34</sup> In 1971-75 the Czech contribution was 350 million rubles, Frantisek Mares, *loc. cit.* This is probably additional to the 500 million rubles agreed on in 1966, for which payback was to be made in 1975-84.

<sup>35</sup> *Vilagazdašág*, April 3, 1976, p. 1. There is no question but that Hungary projected an import surplus with Communist countries. At 1974 prices the deficit was only 0.7 billion rubles (imports of 15.6 billion rubles less exports of 14.9 billion rubles). *Ibid.*

draft plan; however, projects a cumulative deficit only just one-third the 1975 debt; the change presumably was made as a result of Soviet urging and promises. The GDR has projected a relatively larger deficit. On the basis of the slow growth projected for imports (2.9 percent to 3.4 percent per year) and the rapid growth projected for exports (10 percent to 10.7 percent per year), the GDR would run a cumulative deficit from over one-half to nearly three-fourths of the end-of-year indebtedness in 1975.

TABLE 11.—CUMULATIVE BALANCES ON PLANNED TRADE OF THE EAST EUROPEAN COUNTRIES WITH THE WEST,<sup>1</sup> 1976-80

[In billions of dollars]

	Exports	Imports	Balance
Bulgaria.....	NA	NA	NA
Czechoslovakia.....	15.4	14.9	+0.5
German Democratic Republic.....	18.2-18.5	20.6-20.9	-2.1--2.7
Hungary.....	10-11.0	12.8-13.0	-1.8--3.0
Poland.....	31.5	34.0	-2.5
Romania (developed countries only).....	11.4	11.3	+0.1
Total (excluding Bulgaria).....	86.5-87.8		-5.8--7.6

<sup>1</sup> Based on CEMA trade statistics for 1975, adjusted for the German Democratic Republic, and planned trade increases shown in table 9, above projected on a straight line basis. An adjustment of German Democratic Republic data is made to correct for German Democratic Republic use of a special rate for converting trade with the Federal Republic of Germany. Uncertainty exists in some cases about the appropriate rates for converting East European foreign trade statistics into dollars.

The other two countries have evidently projected trade with the West to meet predetermined balance of payments constraints. Czechoslovakia projects a small surplus with the West for the period as a whole. It is quite unlikely that the planners have succeeded in reconciling the trade projections with the economic growth plans, although they have set ambitious goals for "saving" fuels and materials. Romania, which projects a balanced trade with the developed West, as well as a surplus with developing countries, is surely in much the same position. If Western market conditions are favorable, the Romanians might run trade surpluses in good agricultural years, something they did not succeed in doing even in 1971-73, but hardly a cumulative balance on trade with the developed West for the whole period 1976-80, especially if rapid economic growth is to continue.

#### HARD CURRENCY DEBT PROJECTIONS

The projections of indebtedness associated with the trade plans can be estimated, though very roughly, by allowing for soft currency (clearing) trade and invisibles. Trade surpluses were undoubtedly projected on clearing account (mainly with LDCs), those of Czechoslovakia and Romania being the largest. Moreover, hard currency surpluses were projected on transport and tourism together and on transfers. These would be sizeable for Poland and for the GDR (as a result of transactions with West Germany) and significant for the other countries. Past experience suggests that the net effect would be to make Romania's surplus on trade and services (excluding interest) in hard currency substantially less than the projected trade surplus overall with the West; to turn Czechoslovakia's trade surplus into a

deficit; and to make the GDR's deficit substantially smaller and Hungary's and Poland's deficits significantly larger than the respective trade deficits with the West.

The countries that project substantial cumulative trade deficits with the West—Hungary, Poland, and the GDR—must have projected large increases in hard currency debts by 1980, allowing for these considerations and projected interest payments. The Hungarian debt in 1980 would be  $2\frac{1}{2}$ –4 times the 1975 level; Poland's projected debt would be more than double that in 1975, and the GDR's would approach twice the 1975 level.

A doubling of the Polish debt, accompanied by the comparable rise planned in exports, would imply a fairly small rise in the debt burden, if it is assumed that the hard currency earnings remain in about the same proportion to exports to the West. For Hungary and the GDR, however, the projected increases in the debt burden must present a disquieting prospect.

Czechoslovakia and Romania have evidently projected very manageable debts—that is the point of the trade projections. The implied Czech debt would rise slowly, along with exports. The Romanian debt would rise more slowly than exports. The Romanians indeed claimed that under the plan they would bring trade and payments into balance, "generally" liquidate foreign debts, and create a reserve of foreign exchange.<sup>36</sup> From earlier statement "generally" may be glossed as meaning "except for some long-term credits." Even so, this claim implies the netting of hard currency liabilities against much larger projected assets on clearing account (and from compensation deals) with developing countries.

The Soviets unquestionably have been disturbed by Eastern Europe's balance of payments problems, whether acknowledged or ignored, implicit in the planned rates of economic growth. Soviet criticism presumably accounted for a reduction of Bulgaria's goals to the lower limits of the range indicated in the plan directives. Otherwise there has been little observable effect. Even the goals of the revised Polish draft plan announced in December 1976 are unchanged for industry and NMP. Some changes were made; the goals were upped for agriculture, and shifts in sector and branch plans are to yield more for the consumer and for exports, presumably with smaller requirements. The latest Romanian plan of July 1976 is even more ambitious than the draft directive publicized in 1974, though slightly less so in some respect than an intermediate version of February 1976.

It is surely obvious to the Soviets, as to the East European planners and perhaps the leaders, that something will have to give, except in the special case of Hungary. What has led the Soviet leadership to acquiesce in the plans is perhaps a hope of large government-guaranteed credits from the West on concessionary terms, to provide the time to develop export industries and markets in the West—and the time to reduce dependence on imports of Western machinery and equipment.

<sup>36</sup> Mihai Păraluta, "Cincinalul 1976–1980, cincinalul revoluției tehnico-stiințifice. Sarcinile întreprinderilor și organizațiilor de partid din industrie, . . ." *Revista Economica*, No. 5, 1976, p. 18.

The USSR evidently must help out when urgently necessary to preserve these options, as it already may have done in 1976. Apart from continued support for Bulgaria, direct Soviet aid is not likely to take the form of hard currency, but rather of commodity credits. Poland has been assured of aid—the press report of a 1 billion rouble (\$1.3 billion) credit, as already noted, involves (supplementary) Soviet deliveries of barley, raw materials, consumer goods, and machinery “on favorable terms.” Already in 1976, the USSR seems to have given some help to Poland and the GDR, to judge from the Soviet trade surpluses of over \$350 million and about \$600 million, respectively, with the two countries. Other countries may seek, or be offered, Soviet help—even Romania, in view of the March 1977 earthquake.

#### TRADE PROSPECTS

How much help the East European countries may need—Soviet help in the short run, Western help in the longer run—is far from certain. At a minimum, it is likely to be greater than suggested by the trade projections for 1976–80. Obviously a great deal depends on the timing and strength of an upturn in the West, which is necessary if East European exports are to rise. For a time, imports from the West can be cut back, as they were, in most cases, in 1976. Over several years, however, imports must again rise if the pace of economic growth is to be maintained. Machinery imports alone can be reduced for a few years with little overall effect on current output and consumption; agricultural imports can be cut if Eastern Europe has a bumper crop, especially if the Soviets help out more and Hungary is willing to sell grain on favorable terms. For other commodities, however, the East Europeans have little choice but to increase imports from the West, once they have run down inventories—as some of them already did in 1976.

Beyond doubt the volume of East European imports from the West will grow less rapidly than in 1971–75 or 1966–70, when the average rate of growth was about 12 percent; at most the growth rate might approach the 10 percent average in 1961–65. Table 12 projects total East European imports from the West, together with hard currency imports; the implied rate of growth (straight line) ranges from 5 percent—10 percent.<sup>37</sup> This is the estimated range within which the growth of imports would probably fall if the East European countries are to continue with planned economic growth. Most, perhaps all, countries’ imports would have to fall within this range. Those with more rapid economic growth—Romania, Bulgaria, and Poland—are due to get the biggest increases in Soviet deliveries, and thus can do with about the same growth of imports from the West as the other countries.

<sup>37</sup> A Polish expert on trade projections, Aleksander Czepurko, has projected an average increase of 7.6 percent per year in East European imports from “developed capitalist countries” in 1976–80, on the basis of trends in 1955–74. Aleksander Czepurko, *East-West Trade Prospects up to 1980* (Forschungsbericht No. 31, Wiener Institut für Internationale Wirtschaftsvergleiche), Vienna, December 1975, especially pp. 42 ff.

TABLE 12.—TENTATIVE PROJECTION OF EAST EUROPEAN IMPORTS FROM THE WEST IN 1980 COMPARED WITH 1975<sup>1</sup>

[In billions of dollars]

	Imports, 1975		Projected imports, 1980	
	Total	Estimated hard currency	Total	Estimated hard currency
Machinery and equipment.....	5.3	5.2	5.3-8.3	5.2-8.1
Crude oil.....	1.0	.5	2.0-2.2	1.6-1.8
Minerals and metals.....	3.6	3.3	5.8-6.5	5.2-5.9
Chemicals.....	1.9	1.7	2.3-2.4	1.9-2.0
Feed supplements.....	1.0	.7	1.4-1.6	1.1-1.3
Grains.....	1.0	1.0	.8-.9	.8-.9
Partial total.....	13.8	12.2	17.6-21.9	15.8-20.0
Other.....	6.2	4.9	7.9-9.8	6.3-8.0
Total imports.....	20.0	17.1	25.5-31.7	22.1-28.0
Implied annual average increase 1976-80 (percent).....			5.0-9.7	5.3-10.4

<sup>1</sup> Projections made on the basis of considerations discussed in the text.

The rise in machinery imports is allowed to range between zero growth and the average growth rate for all other commodities. Machinery imports could be kept, as planned, at about the 1975 level with little effect on economic growth rates through 1980, for reasons already noted—cuts in the growth of industrial development, lag between imports of plant and equipment and capacity production, and the continued rapid expansion of engineering output and trade in the CEMA countries. On the other hand, a leveling off—or drop—in machinery and equipment imports from the West would make for a greater lag in technology in the 1980s, something the East European countries would like to avoid insofar as they can afford to. In any case, the volume of machinery imports is not likely to double as in 1971-75, but if the countries are able to continue, as assumed, with their economic plans, they are likely to be able to increase machinery imports in a modest way, even though that is not provided for in their plans.

Goals for expanding crude oil imports from the West in 1976-80 have been greatly reduced. In the early stages, the East European plans implied imports of over 50 million tons from the West—almost all from OPEC countries—in 1980, or more than four times the 1975 level of less than 12 million tons. But projected uses for energy have been substantially cut back, while planned domestic production has been upped, with the entire difference reflected in oil imports from the West. The later plans imply a rise of these imports to only about 24 million tons, or less than one-half the original goal. Of this amount nearly one-half, about 11 million tons, is for Romania.<sup>38</sup>

A major reason for sharp cutbacks in oil imports has been the difficulty of arranging for continued—much less expanded—deliveries on clearing or compensation. In the late 1960s and early 1970s, the Middle East countries had “surplus” oil to sell to Eastern Europe on these terms. But it is doubtful that as much as one-half of the oil imported in 1975 was on clearing, and the share is certain to fall; even the amount is likely to decline as earlier agreements run out.

<sup>38</sup> See Haberstroh, pp. 379-395.

Accordingly, hard currency purchases in 1980 are projected at 18 million to 20 million tons, as against perhaps 6 million tons in 1975; at recent prices, a rise from \$0.5 billion in 1975 to \$1.6 billion-\$1.8 billion by 1980.

Imports of minerals and metals from the West are likely to increase steadily and rapidly. For some years, at least, output in the CEMA countries is not likely to keep pace with requirements for domestic users and for the export of metals and metal products to the West. The growth of 1971-75, when the volume of imports more than doubled, is not likely to be repeated, but metals are likely to lead all other imports in growth.

The increases in the area's chemical production during the last ten years and the further rise of 40-60 percent or more projected for 1976-80 should bring the East Europeans much closer to self-sufficiency in chemical products, including fertilizers, pesticides, synthetics, and plastics, even allowing for greatly increased deliveries to the U.S.S.R. East-West trade in chemicals will show healthy growth, but the East European import surplus will continue to drop. The rate of growth of East European imports had already declined to only about 6 percent per year—in real terms—in 1971-74, and imports leveled off in 1975. Growth in 1976-80 should run less than 5 percent per year.

East European reliance on Western grain imports is likely to increase from about 50 percent of gross imports in 1971-75, which averaged about 9.5 million tons a year, to almost 60 percent in 1976-80, when imports are expected to average a little higher. Over the period, however, the amounts should average below imports from the West in 1975, and below the probable peak level in 1976-77. Soviet deliveries were suspended from August 1975 through October 1976, and only modest amounts have been pledged so far for 1977 out of a record crop. The cutoff in Soviet deliveries, together with poor harvests, raised Western deliveries in 1975 to almost 6.4 million tons, and they are likely to average above 7 million tons in 1976-77. Thereafter imports from the West should drop, though remaining substantial. Even with the normal range of weather during the rest of the 1970's, Poland, East Germany, and Czechoslovakia, which usually account for 85 percent of the area's grain imports, will do well to raise average output of feedstuffs to 10 percent above the 1971-75 level. Continued, but slower growth is projected for livestock herds in these countries. Planned rapid increases in meat consumption are to be met in large part by increasing animal productivity, mainly by an improvement of feeding practices, with the help of heavy investment in large-scale enterprises. Output of feedstuffs in the southern countries should rise faster than in the north, and except in poor harvest years, the southern countries should remain net grain exporters. Only Hungary, however, is likely to increase exports to the northern countries.

Soviet deliveries are not expected to exceed 3 million to 4 million tons a year and may run lower. The Soviet Union could meet a large share of Eastern Europe's needs for grain, even during years of exceptionally poor harvests in Eastern Europe, as it did through the early 1960's, but is apparently unwilling to do so. Thus Poland and East

Germany, the main importers of Western grain, turned to the United States in search of long-term agreements guaranteeing access to the U.S. market, the main source of grain for Eastern Europe. Poland has renewed such an agreement with Canada, and East Germany has discussed the possibility with Argentina. Polish and East German imports will account for most of the 6 million tons a year, more or less, projected as the average import from the West in 1976-80.

Imports of feed supplements—oil seeds and meal together with fishmeal—should rise more slowly as East European feeding practices approach Western standards. In 1971-75, imports of these commodities more than tripled; U.S. soybean meal (including transshipments) is the largest single source, accounting for about one-third. Developing countries account for most of the rest, getting hard currency for a large part of it. Further increases in production of feed supplements are planned in the area, notably by Poland, but Western deliveries will remain a major source. Although USDA expected little increase in 1976, substantial increases in imports are likely for later years.

"All others goods," foodstuffs and products of or inputs into the light and food industries, are projected simply as rising with other imports of materials. Roughly two-thirds of East European imports in these categories has come from the West, and the share is likely to rise. The more industrialized countries of the area, the main importers, need Western products to fulfill commitments to consumers and to meet export targets. In years of poor harvests or of political troubles, imports in these categories are likely to jump; otherwise, when hard currency problems get worse, they are likely to drop. Accordingly, projections of imports of these products are very tentative.

In 1976, only two of the six East European countries dropped imports below the 1975 level—at current prices. Import prices dropped by several percent (depending on the country); at constant prices hard currency imports were up except in Bulgaria.

Only Czechoslovakia and the GDR showed increases, in both cases at only a little above the planned rate for 1976-80.<sup>39</sup> These results were achieved in great part by extraordinary measures to compel the drawing down of inventories of materials. Over the 5-year period, it is hard to see how any of the countries can hold imports within the limits indicated by the projections, if economic growth is to continue according to plan. Hungary alone might stay close to the planned 7 percent increase; the other countries will have to move up into the same range, or else cut back growth rates for industry.

On the export side, even tentative estimates are impossible. In the case of Romania the projected growth of exports to the West is well below,<sup>40</sup> and for the GDR only slightly above, the actual growth of the volume of exports in 1971-75. For Bulgaria, the projected rate is doubtless more than double the 1971-75 rate; for the three other countries it ranges from nearly double (Poland), to over 3 times (Czechoslovakia and Hungary) the rate of real growth in 1971-75, as shown in the following tabulation (annual percent increase):

<sup>39</sup> At constant prices, of course, considerably above planned rates.

<sup>40</sup> For the developed countries only.

	Average 1971-75 actual	1976-80 plan
Bulgaria.....	5	NA
Czechoslovakia.....	2-3	9.0
GDR.....	8-9	10.0-10.7
Hungary.....	3	9.9-(13.2)
Poland.....	7.4	14.5
Romania <sup>1</sup> .....	11-12	7.5

<sup>1</sup> Developed West only

With at least as rapid a growth of the volume of Western trade as in 1971-75—an average rate of growth of 8 percent to 9 percent per year—the GDR might come close to the planned growth of exports to the West thanks to its special access to the West German market, and Romania might exceed the plan, in spite of the losses from the 1977 earthquake. It seems doubtful that the other countries would achieve the growth projected, although they should be able to do better than in 1971-75. Poland, in particular, would be likely under these circumstances to exceed a 10 percent rate of growth, and might show the fastest growth of all, given a strong market for coal, sulfur, chemicals, metal products, and foodstuffs. Continued inflation would benefit chiefly Poland and Romania.<sup>41</sup>

The above estimates make some allowance for the extremely rapid rise in machinery and equipment exports projected in the plans of most, perhaps all, these countries. They may well succeed in expanding deliveries to developing countries very substantially, with a rising payback in materials and consumer goods. The rapid increases proposed also in machinery exports to developed countries are less certain, in spite of sizeable increases in 1971-75. In any case machinery and equipment will not bulk large in exports, accounting for at most 20 percent of the area's exports to developed countries in 1980. Apart from numerous cooperative ventures, none of the countries has concentrated on meeting Western market requirements, and most sales will continue to represent a spinoff of research and development pushed to meet requirements at home and in the other CEMA economies. The most salable items may sometimes be preempted by the U.S.S.R. The intense competition on Western markets in recent years is likely to continue, making it hard for the East European countries to hold the markets they have acquired since the mid-1960's.

Thus East European exports will continue to depend heavily on sales of chemicals, metal products, consumer goods, and foodstuffs. In chemicals and metals, too, the East European countries face heavy competition, which will ease only after Western recovery has continued for a year or two. World capacity has been built up greatly since the mid-1960's, and is at present well in excess of demand; East European sales apparently lagged in 1976, and the outlook is not encouraging for 1977. In consumer goods and foodstuffs, competition is also very keen, and West European countries are not likely to relax restrictions on imports from the East until demand has strengthened.

<sup>41</sup> Czepurko, *loc. cit.* projects the following average annual rates for exports in 1976-80 to the developed West, based on the trend in 1955-74: Bulgaria, 27 percent; Czechoslovakia, 6.8 percent; GDR, 7.3 percent; Hungary, 8.4 percent; Poland, 6.8 percent. No figure is given for Romania.

Preliminary results for 1976 indicate that—at current prices, down by several percent from the 1975 level—Romania (with a 18-percent increase in exports to the developed West) in fact exceeded the planned rate, the GDR (with a 10 percent increase) approached the planned rate, and Poland (with a 8-percent increase) fell well below plan. Hungary did better than expected with an above-plan 15 percent increase in exports to the West; and the increase in Bulgaria's exports (18 percent) probably was in the planned range. Czechoslovakia, showed an 8 percent increase, or more than expected.

It is very doubtful that the East European countries as a group can match in later years the achievement in 1976. It will be harder to hold down imports and push exports than in 1976, coming after a year of peak imports and disappointing exports. Exports—except perhaps in Romania—should fall below plan, and imports—except in Hungary—should run above plan. Therefore it seems likely that the balance of payments prospects of all or most of the East European countries are less favorable than projected. Poland will surely need substantial additional relief in order to finance large continued deficits, unless Western demand picks up very sharply in 1977. The other countries can probably manage for another year or two without major relief—assuming that Bulgaria gets continued Soviet help—but if Western recovery is still lagging in 1978, they too could be looking for some help from West Germany.

#### EAST EUROPEAN DEBTS AND WESTERN POLICY

The developed West thus faces in Eastern Europe problems bearing comparison with those of the Third World. At the worst, however, East European debts will be far smaller than those of the non-OPEC countries of the Third World, even if they rise from \$26 billion, more or less, the level estimated for end 1976, to roughly twice that amount by 1980. Moreover, the East European countries have far better long-run prospects for doing without massive assistance. They are all industrialized countries, even though Romania has obtained useful recognition as a “developing country.” Under continued pressure they should be able to reduce their hard currency balance-of-payments deficits to a manageable level.

The logical Western objective in economic relations with East European countries would be to get them to follow such a course. That would involve a right-about-face in the attitudes of Western governments, which have allowed when they have not encouraged and supported the expansion of credit to Eastern Europe. It would require wide cooperation not only to provide necessary very long-term financing but also to control future expansion of credit, not only with government backing but also by commercial banks at their own risk. The package ought to include commercial concessions and technical aid that would help to assure continued growth of trade.

The chances of getting such an agreement at the moment do not appear strong. Substantial economic recovery would improve the chances. An immediate risk of East European default would further improve them. Even so, the obstacles are great. Apart from commercial rivalries and the interests of protected industries, it would be necessary to overcome resistance from commercial bankers, still “awash with

lendable funds," as one of them put it. Finally, Western leaders have more pressing issues to resolve.

Most existing international organizations—the IMF and IBRD, the UN's Economic Commission for Europe, the European Communities, NATO—are evidently unsuitable, if only because membership is too limited or too broad. OECD appears to offer the best forum for exploring the problem. Continued examination of the issues by OECD would seem to be a useful, perhaps indispensable basis for timely action.

If concerted Western action is not taken during the next upswing in the world economy, a serious breakdown in East-West trade is possible. Without some such action, East European debts will approach an unmanageable level by the early 1980s at the latest. Although outright default might be avoided, commercial banks would find it increasingly hard to justify a further expansion of credit to Eastern Europe. The steady growth of trade with the developed West would end—trade might indeed decline—and the East European countries would shortly have to cut back economic growth.

The political consequences might well take some time to develop, and would depend in part on just how severe and durable the economic consequences proved to be. Over some time, however, one can scarcely doubt that the East Europeans would see as ended two decades of "peaceful economic competition with the capitalist world." The outlook would be less hopeful for them and for Europe generally.

#### APPENDIX A. CALCULATION OF SOVIET-EAST EUROPEAN TRADE IN MATERIALS

The figures in Table 1 reflect Soviet data, which include re-exports, whether or not they reach the USSR. As a matter of convention they are converted to dollars, at the pre-Smithsonian rate of .9 ruble=\$1. This rate is used for the 1974 data as well, to facilitate comparisons over time. The data represent total exports and imports to the several countries, less machinery and equipment (CTN 1) consumer goods (CTN 9), and military end items (in unitemized residual).

The figures for machinery and equipment are the totals in Soviet data (converted). The definition was changed slightly in 1972; the new definition is reflected in the 1970 and 1974 data.

The figures for consumer goods are totals of entries given; they are slightly low, therefore.

The figures for Soviet arms deliveries (to be taken in the broadest sense) are based on Barry L. Kostinsky, "Description and Analysis of Soviet Foreign Trade Statistics," Foreign Economic Report (FER) No. 5, July 1974, pp. 56-73 and 113-16; and various editions of ACDA, "World Military Expenditures and Arms Trade," in particular those covering 1963-73 and 1965-74. East European imports in 1965 and 1970 are ACDA estimates of imports from all sources, less 5% to account approximately for deliveries from Czechoslovakia and Poland, as shown (only in cumulative form) by ACDA. For 1960 they reflect the ACDA estimates for 1961 (reduced by 5%) and the changes from 1960 to 1961 in unitemized Soviet exports to East European countries, the basis for such estimates through 1967. They represent the middle of a probable range. For 1974 the estimates are ACDA estimates, again reduced by 5 percent. The ADCA estimates in "current dollars" for 1974 are reconverted at the pre-Smithsonian exchange rate on the assumption that they reflect basic ruble estimates; that is they are deflated by the difference between the 1970 and 1974 ruble/dollar rate.

The figures for Soviet arms imports for 1960 and 1965 are derived from Kostinsky's demonstration that the residuals in Soviet imports from Czechoslovakia and Poland through 1967 are almost entirely military end items; the figures represent the upper end of a range. For 1970, he makes a direct estimate for Czechoslovakia (p. 114), which is used. For 1974, the estimates are based on ACDA cumulative series and estimates for 1964. A figure for Poland in 1970 is interpolated.

According to ACDA estimates, GDR military exports are very small. The residual in Soviet imports from the GDR through 1967 unquestionably reflects very largely uranium deliveries, but estimates of GDR arms deliveries as high as \$16 million in 1960 and \$32 million in 1965 are consistent with available evidence. (Deliveries of goods to Soviet forces in East Germany are not in question; throughout Eastern Europe all such deliveries are paid for through noncommercial accounts.) Since there is no known way of estimating GDR arms shipments for later years, none is entered for any year. The figures for GDR exports under CTN 2-8 (which represent a residual in total exports) are thus a little high.

The derivation of most estimates of Soviet deliveries of military end items after 1967 is uncertain. But at least the total of ACDA figures for such deliveries to all Communist countries in 1974 is consistent with aggregate Soviet export data. That is, the total is a little less than the residual in Soviet exports to these countries left after subtracting the major elements shown (as percentages) in *Vneshnyaya torgovlya* under "Struktura eksporta SSSR/v sotsialisticheskie strany" (covering CTN 1, 21-24, 26-27, 3, 50-52, 7-9) together with totals of country data given (and partner data available) for the missing items (250, 4, 53, 55-59, and 6)

The figures for CTN 2-8 include any element in the residual not included in arms deliveries (such as GDR uranium deliveries to the USSR). In the case of the GDR, exports to the USSR under CTN 2-8 are somewhat overstated, as noted above, because no estimate is included for GDR shipments of military end items. CTN categories 2-8 include principally fuels, ores, nonmetallic minerals, metals, and certain metal products (CTN 2); chemicals and rubber (CTN 3); building materials (CTN 4); wood and wood products, natural textiles fibers, hides and skins, and technical fats (CTN 5); live animals (CTN 6); food raw materials (CTN 7) and processed foods and beverages (CTN 8).

## APPENDIX B. COMMODITY COMPOSITION OF EAST EUROPEAN TRADE BY AREA

Judgments on the shares of the Communist world and the West in East European imports by commodity group reflect East European statistics, broken down by CTN categories. Many of the sources have been cited, and used, by J. M. Montias and his former student Jozef M. van Brabant. See in particular, Prof. Montias' article, "The Structure of Comecon Trade and the Prospects for East-West Exchanges," *Reorientation and Commercial Relations of the Economies of Eastern Europe*, printed for the Joint Economic Committee, 16 August 1974, pp. 662-81; and Dr. van Brabant's, "A Reconstruction of the Composition of Intra-CEMA Trade Relations" (No. 107, *Berichte des Osteuropa-Instituts an der Freien Universität Berlin*, West Berlin, 1975).

Useful articles for updating their work include the following:

Peter Farkas *et al.*, "Magyarország és a fejlődő országok közötti gazdasági kapcsolatok néhány középtávu tendenciájának előrejelzése," *Közgazdasági szemle*, No. 6, 1973, pp. 649-66.

Vera Ivanova, "Bulgarian Trade Relations with the Developed Capitalist Countries," *Ikonomicheska misul*, No. 1, 1974, pp. 32-41 (JPRS 62619, 31 July 1974).

V. Moiseenko, "Spetsializatsiya i kooperirovanie proizvodstva vazhnyy faktor vzaimnoy torgovli stran-chlenov SEV," *Ekonomicheskoye sotrudnichestvo stran-chlenov SEV*, No. 6, 1975, pp. 85-8.

Zdeněk Orlíček, "30 Let československého zahraničního obchodu," *Zahraníční obchod*, No. 5, 1975, pp. 1-5.

Mikhail Savov, "Razvitie na vzaimniya stokoobmen i sutrudnichestvoto v oblastta na vunshnata turgoviya mezhdou stranite—chlenki na SIV," *Vunshna turgoviya*, No. 11, 1975, p. 7-12.

Materials in statistical yearbooks and economic periodicals, together with some unpublished data, provide complete (or nearly complete) breakdowns for 1960, 1965, 1967, 1970, 1974, and 1975 for Hungary and Romania. For Czechoslovakia, SITC data were converted to a CTN basis to supplement the published breakdowns. Polish 3- to 6-digit CTN data were compiled for 1960-68 and a rough conversion made of later data in the Polish industrial code, in order to get more or less satisfactory breakdowns. Partner country data were used to piece out estimates for the trade of Bulgaria and the GDR in 1965 and the 1970's.

The resulting series would have to be adjusted for differences in price levels and trends to give an accurate idea of the structure and development of trade with various areas. This phase of the work is yet to be done systematically. Rough adjustments have been made, however, using data presented by Marer, *op. cit.*, for the 1960's and published and estimated price indexes for the 1970's. See appendix C. The adjustments are believed to be good enough to support the general conclusions given in the text.

For data on specific types of machinery and equipment imported from East and West, the main reliance has been put on unadjusted, often incomplete data published by the East European countries in various commodity codes. For chemical equipment, see Harold K. Lent, Jr., "East European Chemical Production and Trade," Reorientation and Commercial Relations of the Economies of Eastern Europe, printed for the Joint Economic Committee, 16 August 1974, pp. 406-20. Otherwise, see the various countries' statistical yearbooks (general and/or foreign trade); all but the GDR give a good idea of the breakdown, though it would be hard to compile comparable estimates. Partner country statistics plus the CEMA statistical yearbooks give a general impression for the GDR.

### APPENDIX C. PRICE CHANGES AND REAL GROWTH OF IMPORTS AND EXPORTS, 1960-75

The real growth of imports from the West and from the Communist world in 1961-75 (Table 2) and of exports to the West in 1971-75 (p. 42) is estimated from official data of the East European countries themselves, extended when necessary by the use of Hungarian price indexes.

In the one case, that of the GDR, official statistics directly provide data on imports and exports at "comparable" prices, *in toto* and with the Communist world in 1960-69;<sup>2</sup> and on total imports, total exports, and turnover with major areas in 1971-75. The real growth of imports from and exports to the Communist countries and the West from 1970 to 1975 is calculated with the help of an estimate of the real growth of exports to Communist countries. See Table C-1. The implied price indexes are given in Table C-2.

TABLE C-1.—ESTIMATED INCREASES FROM 1970 TO 1975 IN GDR EXPORTS TO AND IMPORTS FROM COMMUNIST COUNTRIES AND THE WEST

	1970 (million VM) <sup>1</sup>	Index (1970 equals 100)	1975 (million VM)
<b>Exports:</b>			
Communist countries.....	14, 221. 2	♣ 157. 4	22, 384
West.....	5, 019. 1	(147. 8)	♣ 7, 419
Total.....	♣ 19, 240. 2	♣ 154. 9	29, 803
<b>Imports:</b>			
Communist countries.....	14, 118. 9	(142. 5)	♣ 20, 117
West.....	6, 238. 3	(139. 6)	♣ 8, 709
Total.....	♣ 20, 357. 2	♣ 141. 6	28, 826
<b>Turnover:</b>			
Communist countries.....	28, 340. 1	♣ 150. 0	42, 501
West.....	11, 257. 4	♣ 143. 3	16, 128
Total.....	♣ 39, 597. 4	♣ 148. 1	58, 629

<sup>1</sup> "Statistisches Jahrbuch der DDR 1975," pp. 262-3, also in earlier editions.

<sup>2</sup> The annual increase in exports to socialist countries (at "comparable prices" is given at 10 percent per year in the draft directives for 1976-80, "Neues Deutschland," Jan. 15, 1976, p. 4. This rate has been scaled down to 9.5 percent in view of the overall effect on implied price indexes.

<sup>3</sup> Residuals.

<sup>4</sup> Totals differ from sums of items as a result of rounding.

<sup>5</sup> As given in "Statistisches Jahrbuch der DDR 1976," p. 264. Resulting totals for turnover have been adjusted downward for rounding so as to add to totals of exports and imports.

<sup>6</sup> The calculation of trade with the West and the implied price indexes are given by Paul Marer, "Postwar Pricing and Price Patterns in Socialist Foreign Trade." (IDRC Report 1), Indiana University, 1972, p. 77.

TABLE C-2.—IMPLIED-PRICE INDEXES IN GDR TRADE IN 1975  
(1970=100)

	At 1970 prices (million VM) <sup>1</sup>	At 1975 prices (million VM) <sup>2</sup>	Implied price index (1970=100) <sup>3</sup>
<b>Exports:</b>			
Communist countries .....	22,384	25,668	114.7
West .....	7,419	9,418	126.9
<b>Imports:</b>			
Communist countries .....	20,117	26,145	130.0
West .....	8,709	13,119	150.6

<sup>1</sup> From table C-1, above.

<sup>2</sup> From "Statisticheskii yezhegodnik stran-chlenov SEV 1976," p. 341, converted at the rate 4.667 VM=1 ruble.

<sup>3</sup> These derived indexes are all lower than Hungarian indexes, especially for imports. Differences in this direction would be expected for exports as a result of differences in composition—the higher share of machinery and lower share of foodstuffs and raw materials in GDR exports, both to Communist countries and to the West. For imports from Communist countries, a small difference in the same direction is suggested by data for Soviet trade in Martin Kohn, "Developments in Soviet-Eastern European Terms of Trade, 1971-1975," "Soviet Economy in a New Perspective," printed for the Joint Economic Committee, Washington, Oct. 14, 1976, especially pp. 73-77. For imports from the West, one significant factor would suggest a lower price index, the smaller share of crude oil imports, as indicated by the absolute amounts shown in Haberstroh, pp. 379-395.

Otherwise, the basic data are those showing price changes, Fisher ideal indexes in the case of Hungary and Poland, unspecified in the other countries. For Hungary, for Poland after 1965, and for Czechoslovakia (in part) in the 1970's, data are available for overall price changes both with the Communist world and with the West.<sup>43</sup> For Romania, unpublished data indicate the extent of price changes (negligible) with both areas through 1968; for later years, nothing is available.<sup>44</sup> For Bulgaria, for Czechoslovakia in the 1960's, and for Poland in 1961-65, only price changes for a four-way CTN breakdown of total imports and exports are available. In these cases, therefore, Hungarian indexes are applied to trade data broken down in CTN groups to calculate price changes in trade with the Communist world, discussed in Appendix B. Estimates of imports from the West in constant prices are obtained as a residual. The implied price changes in imports from the West are quite consistent with what is given for Hungary.

The range of error in estimating the underlying official data on price changes is believed to be very small through 1970 in view of the relatively small changes and the fairly consistent pattern of changes in CEMA pricing. Even in the 1970's errors beyond a percentage point or two are quite unlikely except perhaps for 1975.

Hewett's work on intra-CEMA trade, moreover, indicates that independently calculated indexes of unit values will generally yield overall results not greatly different from the official indexes. It would nevertheless be particularly useful to carry out similar calculations for East European trade with the West, using Western data.

#### APPENDIX D. CALCULATION OF PERSONAL CONSUMPTION IN ROMANIA

Personal consumption in Romania is estimated from personal incomes, less direct taxes and savings. Gross personal incomes in 1970 are calculated from absolute increases in "real personal incomes" (110 billion lei in 1966-75 and 74 billion lei in 1971-75) and the corresponding percentage increases (91% and

<sup>43</sup> The important sources include:

For Czechoslovakia:

S. Potáček, "Devizové hospodářství do popředí pozornosti," *Hospodářské noviny*, 4 May 1975, pp. 1, 5.

Peter T. Leach, "Czech Five Year Plan Growth Target Lowered," *Journal of Commerce*, 23 September 1975, p. 10. This article quotes Minister of Foreign Trade Andrej Barcak.

*Svet hospodářství*, 8 January 1976, p. 1 (interview with Minister Barcak).

For Hungary:

*Külkereskedelmi statisztikai évkönyve*, 1975, pp. 407-30.

Adam Marton, "A magyar külkereskedelmi árk változásai és a tőkés világgpiaci áralakulás," *Külgazdaság*, No. 8, 1976, pp. 563-78. Marton is the best known Hungarian expert on foreign trade prices.

For Poland:

K. Chinowski, Anna Stepniewska, "Terms of Trade polskiego handlu zagranicznego," *Rynki zagranciczne*, 16 December 1971, p. 3. Anna Stepniewska, Hanna Molewicz, "Terms of trade polskiego handlu zagranicznego," *Handel zagraniczny*, July 1976, pp. 35-38.

<sup>44</sup> In an interview on 21 July 1975 with a correspondent from *Le Monde*, Ceausescu did indicate that price increases in recent years for imports from the West had been "somewhat offset" by price increases for exports. *Romania/ Documents—Events*, No. 31, 1975, p. 57.

46%. See Nicolae Bozdog, "Amplificarea dimensiunilor și funcțiilor economico-sociale ale comerțului socialist," and Ioan Ravar, S. Muntean, "Ridicarea nivelului de trai și civilizație al oamenilor muncii țelul suprem al politicii partidului," both in *Revista economica*, No. 33, August 20, 1976, pp. 16, 14, respectively, and "Anuarul statistic al RSR 1975" p. 52. The resulting 1970 figure of 152 billion lei yields a per capita figure of about 7,550 lei, believed to have been deflated to a 1963 base. The official index for the cost of living in 1964-70 rose about 2 percent, bringing the per capita figure in 1970 lei to about 7,700 lei. Direct taxes were about 575 lei per capita (total is from "Anuarul statistic al RSR 1975," p. 408) and savings about 225 lei per capita,<sup>45</sup> leaving a figure of 6,900 lei per capita for income spent for goods and services. A factor of 13 percent is added for consumption in kind, by analogy with Bulgaria and Yugoslavia in 1968 (see Maria Elisabeth Ruban, *et al.*, *Die Entwicklung des Lebensstandards in den osteuropäischen Ländern* (DIW Sonderheft 108), West Berlin, 1975, pp. 94, 100), producing a total personal consumption of about 7,800 lei per capita. (Of the cash expenditures, about 4,800 lei was spent in socialist retail trade, 800 lei in the free market, 550 lei for housing, insurance, and the like, and 750 lei for other services. Cf. breakdown in Georges Caranfil, "Le pouvoir d'achat du 'leu' roumain," *Revue de l'est*, No. 2, 1970, esp. pp. 140-53.)

## APPENDIX E. ESTIMATES OF THE PROJECTED TRADE OF EASTERN EUROPE IN 1976-80

The East European countries published less for 1976-80 on projected increases in trade than for earlier periods. A good deal has still appeared on trade with the Communist world, but very little on trade with the West.

Information on projected turnover with other CEMA countries is available, sometimes in toto and otherwise by country, and for projected trade with Yugoslavia. Little or nothing has appeared on projected turnover with the Far East Communist countries, partly because there have been few 5-year trade agreements. Public statements sometimes note the price basis used for the absolute data, or increases, announced; in most other cases, the probable basis can be inferred.

All countries but Bulgaria and Romania have also put out information on increases in trade with the Communist countries from 1975 to 1980—either on exports (the GDR) or on exports and imports (Czechoslovakia, Hungary, and Poland). These figures, too, must be reviewed in the light of whether they reflect constant ("comparable") 1974 or 1975 prices, or instead reflect projected current prices, as they sometimes do. Increases reflecting 1974 constant prices, which must sometimes be used, must be adjusted downward—with 1974 price weights, higher rates of increase are obtained than with 1975 weights, chiefly as a result of major increases in 1975 CEMA prices of slow growing raw materials trade and relatively smaller increases for the rapidly-growing trade in machinery.

With these precautions, the projected increases in exports to and imports from the Communist world can be approximated except for Bulgaria and Romania. For Bulgaria it is possible to calculate the projected balance with the U.S.S.R., and that with Hungary is given. For Romania one is reduced to estimating directly the cumulative trade balance over the period.

Projected increases in trade with the West are given by Czechoslovakia and Hungary. For Poland, the projected increases, as revised in late 1976, may be inferred from the increases projected in exports and imports overall and with the Communist world. For the GDR, rough estimates can be calculated from estimates of trade with the Communist world, a believable statement that there would be little change in the share of the Communist world in total trade, and an estimate that the projected increase in overall exports was at least as great as the increase (at "comparable prices") achieved in 1971-75, with allowance for the effect of a shift to 1975 price weights.

Estimates for Romania involve an analysis of three stages of the Romanian foreign trade plans. In the first two drafts, total exports and imports were projected from the expected results in 1971-75, the first in 1973 prices, the second in 1974 prices. It is assumed that the final plan projected the same volume of ex-

<sup>45</sup> Estimated on the basis of the lowest real income in the area and an intermediate rate of growth of nominal income. An even lower figure, only about one-half the estimate, would be obtained by linking (with interpolation) Montias' series for savings deposits through 1964 (J. M. Montias, "Economic Development in Communist Rumania," Cambridge, Mass., 1967, p. 74) with the index numbers (1965 base) for 1965 and 1970 cited by Maria Elisabeth Ruban, *et al.*, in the work cited just below in the text, p. 155.

ports and imports as the first two plans; the resulting estimate is adjusted to take account of shifts in price weights from 1974 and 1975. Projected trade with the West is then obtained as a residual after subtracting estimated trade with the Communist world.

TABLE E-1.—PROJECTION OF BULGARIA'S TRADE WITH COMMUNIST COUNTRIES, 1976-80

	1975 (million rubles) <sup>1</sup>	1980	
		Index (1975=100)	Million rubles
Exports.....	2,794	(151.0)	* 4,219
Imports.....	2,910	(133.0)	* 3,870
Turnover.....	5,704	(141.8)	* 8,089

<sup>1</sup> "Statisticheskiy yezhegodnik stran-chlenov SEV, 1976," p. 341.

<sup>2</sup> Projected exports to and imports from Communist countries are calculated from projected turnover and cumulative trade balances with the U.S.S.R. and Hungary. For lack of any other information, an aggregate net balance is assumed in projected trade with other countries. The surplus with the U.S.S.R. is estimated from the statement that Bulgarian machinery and equipment deliveries to the U.S.S.R. would double in the period and would constitute 50 percent of total exports. (Y. Tenov, "Sotsialisticheskiy internatsionalizm v deistvii" "Ekonomicheskaya gazeta," No. 37 September 1976, p. 20). Elsewhere (A. Ketkovich, "Vsaimovigodnoye sotrudnichestvo," "Sovetskaya torgovlya," Apr. 1, 1976, p. 3) it is specified that the proportion would be 49 percent over the period. Thus (on a flat rate basis) machinery exports to the U.S.S.R. would be about 6,030,000,000 rubles in the period, and Bulgarian total exports would be 12,300,000,000 rubles. Given a total turnover of 24,000,000,000 rubles (as given; e.g., by M. Loshakov, A. Polyenko, "Soviet Trade with the European Socialist Countries: Results and Prospects," "Foreign Trade U.S.S.R.," No. 12, 1976, p. 9), imports would be 11,700,000,000 rubles, and the surplus 600,000,000 rubles. This is reasonable in view of the 670,000,000 rubles in participation in Soviet project scheduled for 1976-80 (e.g., FBIS, "Daily Report," Eastern Europe, Jan. 5, 1976, p. C1, citing BIA broadcast in English, Dec. 27, 1975). To the 600,000,000 ruble surplus with the U.S.S.R. is added a 70,000,000 ruble (403,000,000 rubles—332,000,000 rubles, in 1975 prices) surplus with Hungary. See "Vilaggazdasag," Dec. 6, 1975, 0. p. The resulting projections for 5-yr cumulative exports (18,000,000,000 rubles) and imports (17,330,000,000 rubles) are then used (on a flat rate basis) to project increases in exports and imports to 1980.

<sup>3</sup> Turnover represents the sums of trade agreements for 1976-80 plus estimates for other countries. For Soviet trade at 24,000,000,000 rubles, see Loschakov and Polyenko, op. cit. For trade with the GDR, given as 16,000,000,000 VM, see Stefan Sharenkov, "Sotrudnichestvo mezhdu NRB i stranite-chlenki na SIV," "Politicheskaya agitatsiya," No. 14, 1976, pp. 61-67 (JPRS 68143, Nov. 1, 1976). For trade with Poland, at 2,200,000,000 rubles, see BBC, "Summary of World Broadcasts," pt. 2, Eastern Europe, SWB EE/W869/A/2, Jan. 29, 1976, citing BTA broadcast in English, Jan. 16, 1976. For trade with Czechoslovakia, the figure of 1,800,000,000 rubles is an estimate based on Sharenkov, op. cit. For Hungary, the figures cited above totaling 735,000,000 rubles, are taken from "Vilaggazdasag," loc. cit. The figure for trade with Romania, 1,000,000,000 rubles, is from RFE, "Romanian Situation Report/21" June 6, 1975, p. 6. The figure for Cuba, 700,000,000 rubles, is based on a statement that trade in 1976-80 would be 65 percent greater than in 1971-75. Sofia BTA in English, Dec. 25, 1976, citing "Rabotnicheskoy delo" of the same day, as given by JPRS 68506, Jan. 19, 1977, p. 4J. The figure for Yugoslavia, 1,000,000,000 rubles, comes from "Privredni pregled," Dec. 15, 1976, p. 2. The figures for Mongolia, 100,000,000 rubles, and other Communist countries, 400,000,000 rubles, are rough estimates assuming somewhat the same expansion of trade as before.

TABLE E-2.—PROJECTION OF CZECHOSLOVAKIA'S TRADE,<sup>1</sup> 1976-80

	1975 (million crowns)	1980	
		Index (1975=100)	Million crowns
Exports:			
Communist countries.....	33,377	141.5	47,228
West.....	13,274	153.9	20,429
Total.....	46,651	(145.0)	67,657
Imports:			
Communist countries.....	35,399	127.2	45,028
West.....	15,317	114.9	17,599
Total.....	50,716	(123.5)	62,627
Turnover:			
Communist countries.....	68,776	(134.1)	92,256
West.....	28,591	(133.0)	38,028
Total.....	97,367	(133.8)	130,284

<sup>1</sup> Projections for exports and imports adjusted from plan data at 1974 prices. The overall increases were 42.7 percent for exports and 24.4 percent for imports (32.5 percent for turnover). For trade with the Communist world exports were to rise 46.3 percent imports 32 percent, and turnover 39.2 percent. From article in Bratislava "Pravda," by Deputy Prime Minister Rudolf Rohlicek, Jan. 19, 1976, quoted in British Embassy "Press Review," No. 12, Jan. 20, 1976, p. 4. The projections for trade with the West, obtained as a residual from the original data, are left with little change; price changes on the world market from 1974 to 1975 would have little effect on them.

TABLE E-3.—PROJECTION OF GDR TRADE, 1976-80

	1975	1980	
	(billion valuta mark) <sup>1</sup>	1975=100	Billion valuta mark
<b>Exports:</b>			
Communist countries .....	25.68	146.0	37.49
West .....	9.42	(160.9) (164.6)	15.16 15.51
<b>Total</b> .....	<b>35.10</b>	<b>150.0</b> <b>151.0</b>	<b>52.65</b> <b>53.00</b>
<b>Imports:</b>			
Communist countries .....	26.16	(126.2)	33.01
West .....	13.13	(118.1) (115.5)	15.51 15.16
<b>Total</b> .....	<b>39.29</b>	<b>123.5</b> <b>122.6</b>	<b>48.52</b> <b>48.17</b>
<b>Turnover:</b>			
Communist countries .....	51.84	136.0	70.50
West .....	22.55	136.0	30.67
<b>Total</b> .....	<b>74.39</b>	<b>136.0</b>	<b>101.17</b>

<sup>1</sup> Data from Statisticheskiy yezhegodnik stran-chlenov SEV, 1976, p. 341, converted to VM and compared with data on turnover in Statistisches Jahrbuch der DDR 1976.

<sup>2</sup> The 5-yr plan increase is projected at 50 percent for exports, (see Neues Deutschland, Dec. 17, 1976, p. 3), but is adjusted downward to 46 percent for the effect of shifting from 1974 prices, in which the planning was done (see Neues Deutschland, Jan. 15, 1976, p. 4) to 1975 prices.

<sup>3</sup> Residuals.

<sup>4</sup> It is presumed that the GDR intends to do at least as well on exports (in real terms) as in 1971-75, when they rose (at 1970 prices) by 54.9 percent. Statistisches Jahrbuch der DDR, 1976, p. 264. At 1975 prices, that would be equivalent to a 50-51 percent increase, mainly because of the reduced weight of machinery and equipment, the most rapidly growing sector, and the increased weight of fuels and foodstuffs, the most slowly growing.

<sup>5</sup> Turnover with the Communist world in 1980 is derived as follows. Projected 1976-80 turnover of 54,000,000,000 rubles, 1974 prices with CEMA (Neues Deutschland, Nov. 27, 1975, p. 4), is multiplied by 1.1787 to convert to 1975 prices, making 63,650,000,000 rubles. A total of \$2,800,000,000 projected for trade with Yugoslavia, presumed to be in 1975 prices (Belgrade domestic service, Jan. 10, 1977, reported in FBIS Daily Report, Eastern Europe, Jan. 11, 1977, p. 18), is converted to 2,130,000,000 rubles. The total of 65,780,000,000 rubles is 6,040 times the 1975 figure based on 10,890,000,000 rubles with CEMA plus Yugoslavia, yielding an increase (flat rate projection) of 36 percent in 1980 over 1975.

<sup>6</sup> Total trade with the West is projected as remaining the same share as in 1975, on the strength of what foreign trade officials told the Reuters reporter in Leipzig. East-West Trade News, Sept. 15, 1976, p. 3. The same reporter also noted, on this and other occasions, that the GDR hoped to double trade with the West.

TABLE E-4.—PROJECTION OF HUNGARY'S TRADE, 1976-80

	1975	1980	
	(million rubles) <sup>1</sup>	Index (1975=100) <sup>2</sup>	Million rubles
<b>Exports:</b>			
Communist countries .....	2,888	140.0	4,043
West .....	1,111	142.0 160.0 185.8	4,101 1,778 2,064
<b>Total</b> .....	<b>3,999</b>	<b>(145.6)</b> <b>(154.2)</b>	<b>5,821</b> <b>6,165</b>
<b>Imports:</b>			
Communist countries .....	3,075	143.0 145.0	4,397 4,459
West .....	1,571	138.0 140.0	2,168 2,199
<b>Total</b> .....	<b>4,646</b>	<b>(141.3)</b> <b>(143.3)</b>	<b>6,565</b> <b>6,658</b>
<b>Turnover:</b>			
Communist countries .....	5,963	(141.5) (143.6)	8,440 8,560
West .....	2,682	(147.2) (159.0)	3,946 4,263
<b>Total</b> .....	<b>8,645</b>	<b>(143.3)</b> <b>(148.3)</b>	<b>12,386</b> <b>12,823</b>

<sup>1</sup> As given in "Statisticheskiy yezhegodnik stran-chlenov SEV," pp. 339, 341.

<sup>2</sup> BBC, "Summary of World Broadcasts," pt. 2, Eastern Europe, Weekly Economic Report, SWB EE/W856/A/10, Dec. 4, 1975, quoting a broadcast on Nov. 20, 1975, by Gyula Kovacs, Deputy Minister of Foreign Trade. The upper limit shown for exports to the West is extrapolated to produce a spread of 5 percentage points in overall turnover; Kovacs spoke of an increase of 45 percent to 50 percent. Later figures are similar, though not identical.

TABLE E-5.—PROJECTION OF POLAND'S TRADE, 1976-80

	1975 (million zloty) <sup>1</sup>	1980	
		Index (1975=100)	Million zloty
<b>Exports:</b>			
Communist countries.....	20, 472. 2	(160. 4)	* 32, 842
West.....	13, 688. 5	* 196. 8	26, 939
<b>Total.....</b>	<b>34, 160. 7</b>	<b>* 175. 0</b>	<b>59, 781</b>
<b>Imports:</b>			
Communist countries.....	19, 086. 9	(156. 3)	* 29, 833
West.....	22, 563. 8	100. 0	22, 564
<b>Total.....</b>	<b>41, 650. 7</b>	<b>* 125. 8</b>	<b>52, 397</b>
<b>Turnover:</b>			
Communist countries.....	39, 559. 1	(158. 4)	62, 675
West.....	36, 252. 3	(136. 6)	49, 503
<b>Total.....</b>	<b>75, 811. 4</b>	<b>(148. 0)</b>	<b>112, 178</b>

<sup>1</sup> "Rocznik statystyczny handlu zagranicznego 1976," p. 4.

<sup>2</sup> Residuals.

<sup>3</sup> The projections for trade with the West are based on the following statement: "The growth rate of export to capitalist countries will almost double as compared with the last 5-year period, the level of import being stable." Press release on Sejm committees' work, Warsaw PAP in English, Dec. 4, 1976, reported FBIS, "Daily Report," Eastern Europe, Dec. 6, 1976, (p. G10). The calculated rate of growth of exports to the West in 1971-75 (real growth) is 7.4 percent, based on Polish data on price changes (see app. C), and that rate is doubled.

<sup>4</sup> The original announcement of the revised plan goals for foreign trade was in Gierek's speech to the 5th Plenum of the PZPR, Dec. 1, 1976, reported from Warsaw domestic service, same day, in FBIS, "Daily Report," Eastern Europe, Dec. 3, 1976, p. G14. The goal for exports was there given as an increase of "over 75 percent; that for imports as an increase of 26 percent. The more precise figure used here for the increase in imports was given in "Polityka," Dec. 18 1976, p. 6.

TABLE E-6.—PROJECTION OF ROMANIA'S TRADE, 1976-80

	1975 (million lei) <sup>1</sup>	1980	
		Index (1975= 100)	Million lei
<b>Exports:</b>			
Communist countries.....	12, 213. 3	(187)	* 22, 864
West.....	14, 333. 6	(224)	* 32, 088
Developed.....	9, 080. 7	(143)	* 13, 025
Developing.....	5, 252. 9	(363)	* 19, 063
<b>Total.....</b>	<b>26, 546. 9</b>	<b>* 207. 0</b>	<b>54, 952</b>
<b>Imports:</b>			
Communist countries.....	11, 558. 5	(186)	* 21, 487
West.....	14, 990. 0	(144)	* 21, 522
Developed.....	11, 197. 4	(100)	11, 197
Developing.....	3, 792. 6	(272)	* 10, 325
<b>Total.....</b>	<b>26, 548. 5</b>	<b>* 162. 0</b>	<b>43, 009</b>
<b>Turnover:</b>			
Communist countries.....	29, 323. 6	(187)	* 44, 351
West.....	34, 611. 7	(181)	* 53, 610
Developed.....	20, 278. 1	(119)	* 24, 222
Developing.....	9, 045. 5	(325)	* 29, 388
<b>Total.....</b>	<b>53, 095. 4</b>	<b>(184. 5)</b>	<b>97, 961</b>

<sup>1</sup> "Anuarul statistic al RSR 1976," pp. 376ff.

<sup>2</sup> Projected exports to and imports from Communist countries are derived from projected turnover for the period, on the assumption of a 700,000,000 ruble cumulative surplus with CEMA and some surplus with the PRC, and the resulting exports and imports in 1976-80 are used to project the increases from 1975 to 1980 at a flat rate.

<sup>3</sup> Projected exports to and imports from the West are residuals after subtracting projected exports to and imports from Communist countries from total exports and imports.

<sup>4</sup> Projected exports to Western developed countries are a residual after subtracting projected imports from the projected turnover.

<sup>5</sup> Projected exports to and imports from developing countries are residuals after subtracting exports to and imports from developed countries from the totals for trade with the West.

See balance of footnotes on page 52.

There is very little to go on in estimating Bulgaria's projected trade with the West. The 5-year plan law does provide that "foreign trade volume must increase" by 60 percent from 1975 to 1980. See *Rabotnichesko delo*, 30 August 1976, p. 1. But this figure almost certainly includes some allowance for trade with Communist countries over and above the 44 percent increase indicated by the trade agreements. Accordingly a residual estimate of trade with the West cannot be made.

## APPENDIX F. PROJECTED TRADE BALANCE BETWEEN THE USSR AND CEMA AND EAST EUROPEAN PARTICIPATION IN SOVIET PROJECTS, 1976-80

The projected trade balance of the U.S.S.R. with the CEMA countries as a group, closely related to the East European aggregate trade balance with CEMA, can be estimated with some precision, but only in projected current prices. The basis is a set of figures on total projected Soviet exports and imports of machinery of almost 57 billion rubles in trade with CEMA in 1976-80, in absolute terms and as percentages of total trade. The result, out of a trade turnover of just under 150 billion rubles, is a Soviet import surplus of 4.4 billion rubles. (See table F-1).

TABLE F-1.—PROJECTED SOVIET TRADE WITH CEMA, 1976-80

	Soviet exports	Soviet imports
Machinery and equipment 1971-75 (million rubles) <sup>1</sup> .....	11, 138	19, 189
Index for 1976-80 (1971-75=100) <sup>2</sup> .....	1. 79	1. 92
Machinery and equipment, projected 1976-80 (million rubles).....	19, 937	36, 843
Share of machinery and equipment in total trade (ratio) <sup>2</sup> .....	275	479
Total projected trade (billion rubles).....	72, 498	76, 919

<sup>1</sup> Standard Soviet trade statistics, CTN 1.

<sup>2</sup> "DDR Aussenwirtschaft," Jan. 19, 1977, p. 2.

At 1975 prices, the projected trade was smaller, about 133 billion rubles, and the trade in machinery only 52 billion rubles. (See table F-2.)

<sup>4</sup> Increases in total exports and imports are projected from earlier stages of Romanian plans for 1976-80, after allowing for changes in the price basis. The first stage was announced in draft directives to the 11th RCP Congress in August 1974 ("Scinteia," Aug. 3, 1974, pp. 1-6A.) This document projected trade in 1971-74 and 1971-75 in constant prices and stated that in 1976-80 trade would rise 72-80 percent, exports by 75-85 percent, and imports 60-70 percent over the projected 1971-75 total. Presumably 1973 prices were used. A 2d stage dating from early 1976 calls for a rise of 80 percent in trade over 1971-75, with exports to rise 90 percent and imports by about 60 percent. See, for example, Mihai Părăuțu, "Cininalul 1976-80, cincinalul revoluției tehnico-științifice. . . ." "Revista economica," No. 5, 1976, p. 18. The third stage is the 5-year plan law, which called only for an increase of from 90 percent to 101.4 percent in 1976-80 over 1971-75, but in this case almost certainly the comparison is with a current price base. "Scinteia," July 3, 1976, pp. 2-3. The increases shown in the text reflect estimates of 210,000,000,000 lei for projected exports and 179,000,000,000 lei for projected imports in 1976-80, based on a rough adjustment of the 2d stage plan. The turnover figure of 389,000,000,000 lei falls near the top of the 372-394,000,000,000 lei that would be obtained from the final plan. So exports, or imports, or both, may be overestimated a little. In any case, the projections reflect not only price changes but also the fact that in real terms exports fell short of plan in 1975 as in 1974 by considerably more than imports.

<sup>7</sup> Projected imports from developed countries assume no increase over 1975.

<sup>8</sup> Turnover with Communist countries is projected on the basis of trade agreements with all partners except Cuba and the Far East Communist countries, for which rough estimates are made. The Soviet figure, from various sources, is given as 9,000,000,000 rubles, which by association may be determined to be in 1975 prices, as in M. Loshako, A. Poliyenko, "Soviet Trade with the European Socialist Countries: Results and Prospects," "Foreign Trade U.S.S.R.," No. 12, 1976, p. 9. The figure with Poland is 2,300,000,000 rubles, from BBC, "Summary of World Broadcasts," pt. 2, Eastern Europe, Weekly Economic Report, SWB EE/W847/A/7, Oct. 2, 1975, quoting a broadcast of PAP in English of Sept. 23, 1975. This figure may be in 1974 prices, and hence low; there is a later figure of 2,800,000,000 rubles (FBIS, "Daily Report," Eastern Europe, Jan. 31, 1977, p. H4, from an Agerpres broadcast of Jan. 30). The figure for Czechoslovakia is 2,400,000,000 rubles, from the increase over 1971-75 indicated by Ion Patan in an interview in "Zemedeiske noviny," Apr. 1, 1976, p. 2, as cited FBIS, "Daily Report," Eastern Europe, Apr. 15, 1976, p. H16. For Hungary, a figure of 1,400,000,000 rubles is projected on the basis of a statement that the trade in 1980 would be double the 1975 level. "Journal of Commerce," Jan. 23, 1976, p. 6. A figure of 1,100,000,000 rubles is projected for Bulgaria from the statement that trade would double the 1971-75 level e.g., "DDR-Aussenwirtschaft," May 12, 1976, p. 3. The figure for the GDR is 5,000,000,000 rubles ("Journal of Commerce," Jan. 23, 1976, p. 6). The figure for trade with Yugoslavia is 2,400,000,000 rubles (BBC, "Summary of World Broadcasts," pt. 2, Eastern Europe, Weekly Economic Report, SWB EE/W860/A/19, Jan. 8, 1976, based on a Belgrade home service broadcast of Dec. 25, 1976).

<sup>9</sup> Turnover with the developed West is a residual, the total projected turnover with the West less projected turnover with developing countries.

<sup>10</sup> Turnover with developing countries is projected at 30 percent of the total, on the basis of often repeated Romanian statements. See, for example Ion Pătan, "Politica României de colaborare economică cu țările în curs de dezvoltare," "Revista economica, No. 23, 1976, p. 6.

To calculate the projected balance at those prices, it seems reasonable to suppose that the implied inflation of machinery and equipment prices (about 9 percent) was shared proportionally between Soviet imports and exports. The implied inflation for other goods—15 percent overall—presumably was somewhat greater for Soviet exports than for imports, chiefly because the former reflect the continued introduction of the world market price rises of 1973-75 for fuels. With a modest adjustment for this difference (16 percent for Soviet exports, 13 percent for Soviet imports), it would appear that the Soviet import surplus in 1975 prices would have been projected at about 6.1 billion rubles (or \$8.2 billion). (See table F-2.)<sup>46</sup>

TABLE F-2.—PROJECTED SOVIET TRADE WITH CEMA, ADJUSTED FOR PROJECTED PRICE CHANGES, 1976-80

	Soviet exports			Soviet imports		
	At current prices (billion rubles) <sup>1</sup>	Price deflator (1975=100)	At 1975 prices (billion rubles)	At current prices (billion rubles) <sup>1</sup>	Price deflator (1975=100)	At 1975 prices (billion rubles)
Machinery and equipment.....	19.94	<sup>2</sup> 109.0	18.20	36.84	<sup>2</sup> 109.0	33.80
Other goods.....	52.56	<sup>3</sup> 116.0	45.31	40.48	<sup>3</sup> 113.0	35.78
Total.....	72.50		63.51	77.32		69.58

<sup>1</sup> From table F-1.

<sup>2</sup> The deflator for machinery and equipment is inferred from the given total, 56,900,000,000 rubles at current prices (as in table F-1), and 52,000,000,000 rubles, presumed to be at 1975 prices. See V. Karpich, "Proizvodstvenoto sotrudnichestvo mezhdu stranite ot SIV—osnova za progresivnoto razvitiye na tehniya stokoobmen," "Vunshna turgoviya," No. 9, 1976, p. 11.

<sup>3</sup> The deflators for all other goods reflect the total residual at current prices from table F-1, 92,600,000,000 rubles, and that at 1975 prices, the difference between 52,000,000,000 rubles for machinery (as above) and a total turnover of 133,000,000,000 rubles, from Gerhard Brendel, "Entwicklung der Aussenhandelsbeziehungen zwischen den RgW Ländern," "Deutsche Aussenpolitik," No. 10, 1976, p. 1505. As noted in the accompanying discussion, the deflators for "all other goods" are differentiated on an estimate of the impact of more rapid increases projected for fuel prices.

Of this total—by the very derivation—1.7 billion rubles (\$6.1 billion—\$4.4 billion) reflects the net terms of trade effects of projected price changes. That amounts to 2½ percent of total East European and Cuban exports over the period (at 1975 prices).

One big part of the remainder reflects East European deliveries to joint projects in the USSR, less the payback beginning in 1979-80. The total participation by Eastern Europe was projected at about 3.4 billion rubles, probably at 1975 prices—at current prices the amount would have run to about 4 billion.<sup>47</sup> of this amount, several hundred million will be invested in hard currency and a certain amount in services, leaving less than 3 billion rubles, further reduced by a few hundred million rubles in payback and by Soviet participation in joint projects in other CEMA countries.

Much of the remaining 2 billion rubles (or more) probably is explained by net Soviet exports of military hardware, less net East European earnings from invisibles. In 1974, judging from ACDA estimates, the net Soviet surplus on military end items was about 860 million rubles<sup>48</sup> and one might conservatively project the total in 1976-80 at over 4 billion rubles. The East European offsets include interest payments, payback for previous "investment" in the USSR and net earnings from tourism. In addition, the East Europeans earn a substantial amount from the supply of goods and services to Soviet forces. The USSR presumably runs a net surplus on transport.

<sup>46</sup> An alternative indication is given by Karpich, who says "between 1975 and 1979" the participation of CEMA member countries in the construction of industrial projects on U.S.S.R. territory, in addition to obligations on long-term trade agreements, will reach about 8 percent of the volume of those exports to the U.S.S.R., "which would come to 5.6 billion rubles."

<sup>47</sup> V. Karpich, "Proizvodstvenoto sotrudnichestvo mezhdu stranite ot SIV—osnova za progresivnoto razvitiye na tehniya stokoobmen," *Vunshna turgoviya*, No. 9, 1976, p. 10. For the higher figure, see, for example, interview with Soviet Deputy Minister of Foreign Trade, L. I. Zorin, "Foreign Trade U.S.S.R.," No. 8, 1976, p. 4.

<sup>48</sup> See appendix A.

# EAST EUROPEAN REACTIONS TO INTERNATIONAL COMMODITY INFLATION

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## I. INTRODUCTION

The international commodity inflation beginning in 1973 had serious economic consequences for the countries of Eastern Europe. Although each of these countries was affected by international economic disturbances, the impact and the reactions differed considerably among them. Some of the differences were clearly due to variations in the economic resource bases of these countries, while others were of a systemic nature. To illustrate these structural and systemic differences, we present case studies of two economies—Poland and Yugoslavia—which differ very greatly along both of these dimensions. The results presented here are preliminary and represent early results of work in progress on a major research project.<sup>1</sup>

The paper utilizes a particular conceptual framework—the impact model—to analyze the effects of worldwide inflation on the countries of Eastern Europe.<sup>2</sup> This model identifies four separate processes—generation, transmission, propagation and containment—by which world economic disturbances influence economic conditions in a particular country. The generation process focuses on the events and policies that give rise to an external economic disturbance—in this case the development of inflation in international markets. The transmission process examines the manner by which the external disturbance induces changes in the domestic producer prices and quantities of tradeable goods (exported and imported commodities). The propagation process encompasses the various channels by which these changes lead to further changes throughout the domestic economy. Finally,

<sup>1</sup> The work began under a grant from the Ford Foundation's International Competition on Research on the Soviet Union and Eastern Europe and is planned to culminate in a research conference in the summer of 1978 at the University of Windsor. Further results of the work on this project by the three authors of this paper, as well as by A. Brown, R. Portes, S. Rosefelde, and T. Wolf will be reported at the American Association for the Advancement of Slavic Studies Annual Convention in October. The 1978 conference will include theoretical papers by P. B. Kenen, L. Tyson, R. Portes, and T. Wolf, studies of Hungary (A. A. Brown), Poland (Z. M. Fallenbuchl), U.S.S.R. (S. Rosefelde), and Yugoslavia (E. Neuberger and L. Tyson), and an analysis of the political ramifications by A. Korboniski.

<sup>2</sup> A. A. Brown, Z. M. Fallenbuchl, J. A. Licari, and E. Neuberger, "The Impact of International Stagflation on Systemic and Policy Changes in Eastern Europe: Theoretical Reflections," in "The Soviet Union and Eastern Europe into the 80's: Multidisciplinary Perspectives," Simon McInnes (ed.), Oakville, Ontario: Mosaic Press, forthcoming.

the containment process includes all of the policies and changes in economic systems specifically designed to prevent the transmission and/or propagation of externally generated disturbances.

The effectiveness of the transmission and propagation processes—the facility and speed with which external events affect the internal economic situation—is a function of the nature of the existing economic system, of the development strategy that determines the structure of the country's imports and exports, of existing government policies, and of the efficacy of the containment mechanisms. A useful way to examine the containment process is to consider three major potential insulation layers, i.e., points at which the containment of imported economic disturbances can best be accomplished: (1) the foreign trade and exchange sector, where changes in world market prices can be prevented from causing changes in domestic wholesale prices of tradeables, and where attempts can be made to reduce somewhat the impact on the domestic economy of changes in foreign demands for the country's exports and supplies of the country's imports; (2) the consumer and producer trade networks, where changes in the wholesale prices and quantities of tradeables can be prevented from causing changes in the retail prices both of tradeables and nontradeables, and possibly also changes in the quantities of these goods available; (3) the labor market, where changes in the retail prices of consumer goods or their availability, which affect the standard of living, can be prevented from causing increases in wages, thereby breaking the price-wage-price spiral, or decreases in the availability of labor services.

The three authors collaborated in the planning of this study and in the writing of Section IV, Conclusions, but the two case studies were done independently, with Poland being done by Zbigniew Fallenbuchl, and Yugoslavia by Egon Neuberger and Laura Tyson; each of these authors are solely responsible for their own case study. We did not attempt to make the case studies parallel, but decided instead to stress in each study those features that were most interesting in the specific country. In addition, the significant differences in data availabilities and structural and systemic differences, as well as our desire to allow each author considerable flexibility, yielded two coordinated, yet highly differentiated studies.

## II. CASE STUDY OF POLAND

### 1. *Timing and Strength of the Impact of World Inflation on the Polish Economy*

In Poland import prices declined in 1971 and 1972 and then they increased by 8.8 per cent in 1973, 16.9 per cent in 1974 and 14.0 per cent in 1975. However, there were also considerable increases in export prices every year during that period and only in 1973 and 1974 was there a decline in the terms of trade (see table I).

TABLE I.—POLAND'S IMPORT AND EXPORT PRICES, TERMS OF TRADE AND THE STRUCTURE OF TRADE ACCORDING TO MAIN REGIONS, 1971-75

	Export and import prices and terms of trade (annual changes)					Structure of trade (percentages of total trade; current prices)					
	1971	1972	1973	1974	1975	1971	1972	1973	1974	1975	
<b>A. Total Trade</b>											
Export.....	2.4	1.4	5.7	16.4	14.2	Export.....	100.0	100.0	100.0	100.0	100.0
Import.....	-1.8	-4	8.8	16.9	14.0	Import.....	100.0	100.0	100.0	100.0	100.0
Terms of trade.....	4.3	1.8	-2.9	-5	.2	Total trade turnover.....	100.0	100.0	100.0	100.0	100.0
<b>B. Trade with Socialist Countries</b>											
Export prices.....	.7	1.8	.6	2.4	21.4	Export.....	63.1	63.6	60.7	55.7	59.9
Import prices.....	-4	.2	-4	3.5	26.1	Import.....	67.4	61.2	51.7	44.4	45.8
Terms of trade.....	1.0	1.5	1.0	-1.0	-3.7	Total trade turnover.....	65.3	62.3	55.7	49.4	52.2
<b>C. Trade with Advanced Industrial Countries</b>											
Export prices.....	6.4	1.2	16.7	45.3	8.6	Export.....	29.8	30.4	34.2	36.3	31.5
Import prices.....	-5.8	-2.1	28.0	32.8	3.3	Import.....	27.3	34.1	44.4	50.8	49.3
Terms of trade.....	13.0	3.4	-8.8	9.4	5.1	Total trade turnover.....	28.5	32.3	39.8	44.4	41.3
<b>D. Trade with Less Developed Countries</b>											
Export prices.....	3.9	-1.3	2.1	40.4	4.6	Export.....	7.1	6.0	5.1	8.0	8.6
Import prices.....	.5	-2.6	12.2	54.7	-3.3	Import.....	5.3	4.7	3.9	4.8	4.9
Terms of trade.....	3.4	1.3	-9.0	-9.2	8.2	Total trade turnover.....	6.2	5.4	4.5	6.2	6.5

Source: G.U.S., "Rocznik statystyczny 1976" (Statistical Yearbook 1976), Warsaw 1976, p. 333; A. Stepiewska, H. Molawicz, "Terms of Trade polskiego handlu zagranicznego" (The Terms of Trade of the Polish Foreign Trade), "Handel zagraniczny," No. 7, 1976, pp. 35-38.

Despite the relatively modest adverse effect on the terms of trade the total impact of the 1973-75 international inflation was serious. It hit Poland at a very unfortunate moment. Following the December 1970 workers' riots and the change in the Party leadership a determined attempt was made to escape from the stagnation which had plagued the economy at the end of the 1960's. Gierek's development strategy was based on a concerted effort to increase at the same time consumption, in order to stimulate incentives and to secure support from the population for the new leadership, and investment, in order to modernize and restructure the economy.<sup>3</sup> A manoeuvre of this nature required considerable imports of capital which could only be obtained from the West. Both measures were expected to increase efficiency and to help to introduce the so-called "intensive pattern of development," which would make the rates of growth less dependent on increases in the quantity of inputs than on increases in their productivity. An essential feature of the strategy was a large-scale import of Western technology in the form of imported machines and equipment, licenses and various industrial cooperation agreements. To a certain extent the transfer of Western technology was accepted as a substitute for any far-reaching systemic reforms, although some improvements of the system of planning and management were envisaged and were, indeed, gradually introduced.<sup>4</sup>

The world inflation reduced the chances of success for this manoeuvre. The prices of machines and equipment increased, making the process of modernization, restructuring and expansion of the productive capacity more expensive. Moreover, the increases in the prices of fuels, foodstuffs and other materials left less foreign exchange available for the purchase of investment goods. At the same time, the recession aspect of the international stagflation made exports more difficult. Particularly adversely affected were the exports of the products of those industries which were the main recipients of imported machines and equipment.<sup>5</sup>

A difficult choice became necessary. Either the country would try to obtain even larger amounts of foreign capital than those which had been envisaged originally, increasing the level of indebtedness to a perhaps dangerous point, or the rates of growth of import had to be reduced. The second alternative could either endanger the investment programme, reduce the rates of growth of national income and delay the completion of the programme of modernization and restructuring of the economy, or lead to shortages of consumption goods. To the extent to which some import substitution was possible, it could be attempted only at the risk of creating some adverse effects. If the new tasks in this field were to be added to the already very taut investment plan, the domestically generated inflationary pressures

<sup>3</sup> Z. M. Fallenbuhl, "The Strategy of Development and Gierek's Economic Manoeuvre," "Canadian Slavonic Papers," v. XIV, Nos. 1 and 2, 1973, reprinted in A. Bromke and J. Strong (eds.), "Gierek's Poland," New York: Praeger, 1973; and "Poland in the Last Quarter of the Twentieth Century: the Economy," *Slavic Review*, v. 34, No. 4, 1975.

<sup>4</sup> Z. M. Fallenbuhl, "Recent Economic Developments in Eastern Europe," The McMaster University Conference on the Communist States, October 1975, to be published in A. Bromke and D. Novak (eds.), "The Communist States in the Era of Détente," forthcoming.

<sup>5</sup> A more detailed analysis of this problem can be found in Brown, Fallenbuhl, Licari, Neuberger, op. cit. and Z. M. Fallenbuhl, "Intégration économique en Europe de l'Est," "Revue d'études Comparatives Est-Ouet," v. 8, No. 2, 1977.

would be substituted for the foreign induced pressures. If some production and investment plans were to be altered to make room for these new tasks, shortages could appear now or in the near future which would destabilize the consumption goods market and endanger the policy of raising incomes and increasing incentives and/or create bottlenecks in the production and investment processes. If the additional domestically produced machines and equipment were technologically less sophisticated or modern, this policy could have not only a short- but also a long-run adverse impact on efficiency. It was clear that any additional import substitution in a still relatively closed economy would reduce efficiency. Moreover, this would be a withdrawal from the policy of opening up of the economy which was recognized as an essential part of the new development strategy.

There is no information on the originally planned import of capital and a difference between import and export of commodities is not, of course, equal to the import of capital and can be accepted only as a rough indicator. At current prices, the excess of import over export increased from 1.68 per cent of the value of export at first moderately to 4.27 per cent in 1971 and 8.16 per cent in 1972. It then rose dramatically to 22.23 per cent in 1973, 26.06 per cent in 1974 and 21.93 per cent in 1975 (see Table II). It appears significant that the most rapid increase occurred in 1973. The timing and the size of the increase may suggest that it was induced by the world inflation rather than planned.

TABLE II.—POLAND'S INTERNATIONAL TRADE AT CURRENT AND CONSTANT PRICES, 1971-75

	Million zloty						Rates of growth (percent)						Average, 1971-75	1975 (1970=100)
	1970	1971	1972	1973	1974	1975	1971	1972	1973	1974	1975			
Import:														
At current prices .....	14,430	16,151	19,612	26,103	34,823	41,651	11.9	21.4	33.1	33.4	19.6	23.9	288.6	
At constant prices .....	16,421	20,058	24,603	28,031	29,480		13.8	22.1	22.6	14.2	5.0	15.5	204.3	
Export:														
At current prices .....	14,191	15,489	18,133	21,355	27,625	34,161	9.2	17.1	17.8	29.4	23.7	19.4	240.7	
At constant prices .....	15,113	17,412	19,328	21,812	23,614		6.5	15.2	11.0	12.8	8.3	10.8	166.4	
Balance of trade at current prices .....	-239	-662	-1,479	-4,748	-7,198	-7,490								
Balance as percent of export (both at current prices) .....	1.68	4.27	8.16	22.23	26.06	21.93								

Note: 1 zloty=0.225 ruble. It was equal to 25 cents in 1970 and 1971, 27 cents in 1972, and 30 cents, in 1973-75. Source: G.U.S., "Rocznik statystyczny 1976," pp. 333, 334, 335.

At constant prices, the rate of growth of imports increased from 13.8 per cent in 1971 to over 22 per cent in 1972 and 1973. Import growth had to be reduced, however, to 14.2 per cent in 1974 and 5.0 per cent in 1975. The decline in the rate of growth of import, despite large imports of capital, was necessary because only much more moderate increases in export were possible to obtain. At constant prices, the rate of growth of export declined from 15.2 per cent in 1972 to 11.0 per cent in 1973. Although it increased to 12.8 per cent in 1974, it declined subsequently to 8 per cent in 1975. The very drastic decline in the rate of growth of import, which took place in that year and which brought it below the rate of growth of export, demonstrated the leaders' concern about the level of indebtedness and inability to expand export more rapidly. The rate of growth of export would have been even lower if it were not for the export of coal which expanded not only in value terms but also in quantity. This, however, made some additional investment in coal mining necessary. This requirement increased domestic inflationary pressures which were generated by an already extremely ambitious investment programme superimposed on increases in the purchasing power in the hands of the population.

Although the full impact of the world inflation was much greater than the aggregate trade figures would suggest, the transmission of external disturbances was limited because of (1) a relatively limited role of trade in the economy, and (2) the commodity and geographic structure of trade. The strength and speed of the transmission process was further reduced by (3) some systemic features which provide the first insulating layer and make it possible, at a cost of reduced efficiency, to separate domestic prices from the world prices; and (4) various government policies of non-systemic nature which were introduced for the purpose of strengthening the first insulation layer.

## *2. The Transmission Process: Limited Role of International Trade*

As the second largest CMEA country Poland has the second largest import and export among the countries of the bloc. However G.D.R., with a much smaller population, has almost the same volume of export. There is a tendency for per capita trade to be relatively smaller in larger countries, other things, particularly the level of development, being equal. The CMEA countries usually have lower per capita trade than the advanced industrial countries in the West of approximately the same size. In 1975 per capita trade in Poland was the third smallest among the CMEA countries (see Table III). Spain with slightly larger population than Poland (35,470 million) had per capita import considerably higher (U.S. \$454) but its per capita export was much lower (U.S. \$217) than in Poland.

TABLE III.—POPULATION AND INTERNATIONAL TRADE OF THE EAST EUROPEAN COUNTRIES AND THE U.S.S.R. 1975

Country	Population, millions	Imports			Exports		
		Millions U.S. dollars	Percent of world imports	Per capita, U.S. dollars	Millions U.S. dollars	Percent of world exports	Per capita, U.S. dollars
Bulgaria.....	8,720	5,309	0.6	609	4,601	0.5	528
Czechoslovakia.....	14,796	8,489	1.0	574	7,808	.9	528
GDR.....	16,850	11,265	1.2	669	10,065	1.2	597
Hungary.....	10,546	6,221	.7	590	5,355	.6	508
Poland.....	34,022	12,545	1.4	369	10,289	1.2	302
Romania.....	21,180	5,330	.6	252	5,329	.6	252
U.S.S.R.....	254,300	35,711	4.0	140	32,175	3.7	127

Source: G.U.S., "Rocznik statystyczny 1976," pp. 534, 608, 609.

In all CMEA countries international trade statistics are shown in "devisa" currencies which differ from the domestic currencies. In Poland the "devisa zloty" (zld) is, in effect, a different currency than the domestic zloty (zl.). Moreover, domestic prices are isolated and differ considerably from the world prices in which foreign trade with the non-CMEA countries is calculated and from the intra-CMEA foreign trade prices in which trade with other CMEA countries is expressed. It is, therefore, meaningless to compare the value of trade, as recorded in statistical yearbooks, with the level of Net Material Product. However, the comparison of the rates of growth of trade and the Net Material Product can give some indication as to the relative role of international trade in the process of growth.

During the period 1961 to 1974 imports in constant prices grew more rapidly than Net Material Product, yielding an income elasticity of about 1.5 during the 1960's and 2 in 1972 and 1973. The rate of growth of imports fell in 1974 and 1975, so that by 1975 the income elasticity of imports was down to 0.56. (See Table IV.)

TABLE IV.—POLAND: RATES OF GROWTH OF IMPORT, NET MATERIAL PRODUCT AND INCOME ELASTICITY OF IMPORT, CONSTANT PRICES

	[In percent]							
	1961-65 average	1966-70 average	1971-75 average	1971	1972	1973	1974	1975
Import.....	9.96	8.98	15.54	13.8	22.1	22.6	14.2	5.0
Net material product.....	6.18	5.98	9.78	8.1	10.6	10.8	10.4	9.0
$\Delta M/\Delta Y \times Y/M$ .....	1.61	1.50	1.59	1.70	2.08	2.09	1.37	.56

Source: G.U.S., "Rocznik statystyczny 1976," pp. XXXV and XLV.

Calculated at constant 1971 domestic prices the share of import in Net Material Product increased from 19.1 per cent in 1966-70 to 26.4 per cent in 1971-75 and the share of export from 20.8 per cent to 23.1 per cent.<sup>6</sup>

<sup>6</sup> B. Wojciechowski, "Problemy importochłonności gospodarki Polski" (Import Intensity of the Polish Economy) *Gospodarka planowa*, No. 12, 1976, p. 639.

A relatively low degree of involvement in international trade is also shown by the proportion of import to the total consumption of some selected commodities or export to total output. Among the most important imports listed by the Statistical Office only 7 had the import to domestic consumption ratio exceeding 30 per cent: tea 111.3 per cent, cotton 111.0 per cent, rice 110.0 per cent, crude oil 96.9 per cent, wool 83.2 per cent, synthetic rubber 34.9 per cent and felt 31.8 per cent. Among the most important exports only 17 commodities had the export to output ratio greater than 30 per cent in 1975.

It is, however, important to remember that under a taut plan even when only a small percentage of the total supply of a particular commodity is imported, a small reduction in that import can have a considerable bottleneck effect or cause a significant shortage in the market for consumption goods. Similarly, even when only a small proportion of total output is exported, any increase in export which has to be effected in order to secure some necessary import may have the same effect on the economy.

Although the total volume of import was relatively limited a very large part of it was connected with the maintenance or enlargement of the level of production. In 1971-75 fuels, raw materials and intermediate goods for further production represented 60 per cent of total import and commodities to be used directly for investment purposes another 25 per cent. Consumption goods represented, therefore, only 15 per cent of the total imports. In this situation imports could be reduced only slightly without adversely affecting the rates of growth of the economy.<sup>7</sup>

The decline in the rate of growth in the Net Material Product which occurred in 1975 (see Table IV) was connected with a decline in the rate of import which was made necessary in order to prevent any further increase in the level of indebtedness, estimated at about \$7.1 billion at the end of that year.

### *3. The Transmission Process: Geographic and Commodity Composition of Trade*

During the period 1971-75 as a whole the average rate of growth of import was 15.5 per cent at constant and 23.9 per cent at current prices (about 54 per cent higher rate) and the average rate of growth of export was 10.8 per cent at constant and 19.4 per cent at current prices (about 80 per cent higher) (see Table II).

Calculated in current prices the CMEA share in total Polish exports and, even more so, imports declined during the 1971-75 period (see Tables III and IV). These shares are affected by the differences between the intra-CMEA prices and the world prices and they were undoubtedly understated in 1973 and 1974 when the intra-bloc prices lagged behind the rapidly increasing world prices. A part of the decline which occurred during these years and a slight increase in 1975, when the CMEA prices were revised, was due to changes in the degree of price distortions.

The extent of the distortions can be seen on the basis of the following calculations. Between 1970 and 1974 imports from socialist countries

<sup>7</sup> Ibid.

(CMEA, Yugoslavia, China, North Korea and Viet Nam) increased by 57 per cent in current prices and by 52 per cent in constant prices. Imports from non-socialist countries increased by 320 per cent during the same period, when calculated in current prices, and by 188 per cent in constant prices. In current prices exports to socialist countries increased by 70 per cent and export to non-socialist countries by 138 per cent. In constant prices these increases were 61 per cent and 41 per cent respectively. As the result, there was a considerable difference between the share of trade with one group of countries calculated in current and constant prices. In current prices the drop in the share of socialist countries in the total Polish export was from 63.9 per cent in 1970 to 55.7 per cent in 1974 and in the Polish import from 67.3 per cent to 43.4 per cent. In constant prices the share of socialist countries actually increased to 67 per cent of the total Polish export in 1974 and the decline in the share of import was only to 52.2 per cent.<sup>8</sup>

Even when measured in constant prices the increase in the share of import from the capitalist countries was quite substantial. A large proportion of Polish imports was in the form of most modern machines, which could often only be obtained from the West, especially since only from that source could they be obtained on credit. So far as fuels and raw materials are concerned, they are "hard commodities" within the CMEA region and they were, therefore, not available for the intra-bloc trade above the quotas which had been originally agreed upon, as they could easily be exported to the West at the booming world prices. There was, therefore, no geographic redirection of imports which could reduce the burden of the impact of world inflation. On the other hand, there was some geographic shift in exports in favour of socialist countries. It was probably effected in order to reduce the adverse effect of the recession aspect of world stagflation.

It was particularly important for the behaviour of the Polish terms of trade during the international fuel crisis that fuels represented a smaller proportion of total import than of total export (see Tables V and VI). On the import side the share of fuels declined from 6.1 per cent in 1971 to 5.2 per cent in 1974. However, it increased to 9.2 per cent in 1975 when the full impact of the increase in the price of Soviet oil and other fuels hit the Polish economy (in 1975 the price of Soviet crude oil increased from 16 roubles per ton to 36 roubles and in 1976 it was additionally increased by 8.5 per cent). On the export side the share of fuels declined from 14.0 per cent in 1971 to 13.5 per cent in 1972 and 12.6 per cent in 1973. It increased however to 15.9 per cent in 1974 and 20.1 per cent in 1975.

<sup>8</sup> P. Bozyk, "Korzystne przyspieszenie" (A Beneficial Acceleration), *Zycie gospodarcze*, No. 20, 1975, p. 3.

TABLE V.—POLAND: COMMODITY COMPOSITION OF IMPORT (S.I.T.C. CLASSIFICATION, CURRENT PRICES): TOTAL AND FROM CMEA COUNTRIES

Group of commodities	Million zlotys					Percentages of total import					CMEA share as percent of the group				
	1971	1972	1973	1974	1975	1971	1972	1973	1974	1975	1971	1972	1973	1974	1975
Food, beverages, tobacco, including raw materials.....	2,022.3	1,931.4	2,679.8	3,445.6	3,874.3	12.5	9.9	10.3	9.9	9.2					
From CMEA countries.....	(933.6)	(632.8)	(615.9)	(975.1)	(1,010.2)	(6.1)	(3.5)	(2.4)	(2.8)	(2.4)	48.6	35.8	23.0	28.3	26.1
Raw materials (excluding raw materials for food).....	2,533.0	2,637.5	3,203.3	4,421.4	4,910.8	16.0	13.7	12.3	12.7	11.8					
From CMEA countries.....	(1,252.4)	(1,215.0)	(1,237.8)	(1,331.5)	(1,751.3)	(7.8)	(5.4)	(4.7)	(4.0)	(4.2)	43.4	46.4	38.7	31.4	36.0
Fuels and electric power.....	931.6	1,131.4	1,435.3	1,819.6	3,816.2	6.1	5.8	5.5	5.2	9.2					
From CMEA countries.....	(333.3)	(1,073.5)	(1,126.0)	(1,113.6)	(2,654.5)	(5.8)	(5.5)	4.3)	(3.2)	(6.4)	94.4	95.4	78.4	61.5	69.8
Chemicals.....	1,104.2	1,337.3	1,514.6	2,581.2	3,067.5	6.8	6.7	5.9	7.4	7.4					
From CMEA countries.....	(524.1)	(595.7)	(615.6)	(751.5)	(1,031.2)	(3.2)	(2.9)	(2.4)	(2.2)	(2.5)	47.5	43.3	39.9	29.2	35.3
Machine and transport equipment.....	5,569.1	7,537.6	10,643.8	13,333.9	15,712.4	34.5	33.7	40.8	33.5	37.7					
From CMEA countries.....	(4,212.5)	(4,932.0)	(6,233.8)	(7,295.0)	(7,536.4)	(26.1)	(25.5)	(24.1)	(20.9)	(18.1)	76.6	65.7	59.2	54.2	48.0
Other manufactured commodities.....	3,873.5	4,954.2	6,601.0	9,155.2	10,269.5	24.0	25.3	25.3	26.3	24.7					
From CMEA countries.....	(2,438.3)	(2,841.6)	(3,033.2)	(3,215.8)	(4,193.2)	(15.5)	(14.5)	(11.5)	(9.2)	(10.1)	64.5	57.4	45.6	35.1	40.8
Total import.....	15,153.7	19,612.4	26,192.8	34,822.9	41,650.7	100.0	100.0	100.0	100.0	100.0					
From CMEA countries.....	(13,407.2)	(11,418.6)	(12,932.3)	(14,717.5)	(18,257.8)	(64.4)	(58.2)	(49.4)	(42.3)	(43.8)	64.4	58.2	49.4	42.3	43.8

Source: G.U.S., "Rocznik statystyczny handlu zagranicznego 1976" (Statistical Yearbook of Foreign Trade, 1976), Warsaw 1976, p. 13.

TABLE VI.—POLAND: COMMODITY COMPOSITION OF EXPORT (S.I.T.C. CLASSIFICATION, CURRENT PRICES): TOTAL AND TO CMEA COUNTRIES

Group of commodities	Million zlotys					Percentages of total import					CMEA share as percent of the group				
	1971	1972	1973	1974	1975	1971	1972	1973	1974	1975	1971	1972	1973	1974	1975
Food, beverage, tobacco.....	1,766.0	2,410.1	2,914.4	3,076.7	2,902.9	11.4	13.3	13.6	11.1	8.5					
To CMEA.....	(341.8)	(634.2)	(523.8)	(894.9)	(993.7)	(2.2)	(3.5)	(2.5)	(3.3)	(2.9)	19.4	26.3	18.0	29.1	34.4
Raw materials (exclusive raw materials for food).....	648.0	642.9	845.2	1,151.1	1,291.3	4.2	3.5	4.0	4.2	3.8					
To CMEA.....	(198.5)	(124.5)	(108.4)	(142.9)	(213.3)	(1.3)	(.7)	(.5)	(.5)	(.6)	30.6	19.4	12.8	12.4	16.5
Fuels.....	2,166.9	2,455.2	2,695.5	4,392.2	6,849.1	14.0	13.5	12.6	15.9	20.1					
To CMEA.....	(1,148.7)	(1,388.2)	(1,510.5)	(1,500.1)	(2,720.9)	(7.4)	(7.7)	(7.1)	(5.4)	(8.0)	53.0	56.5	56.0	34.2	39.7
Chemicals.....	1,243.2	1,429.3	1,733.8	2,623.2	2,603.5	8.0	7.9	8.1	9.5	7.6					
To CMEA.....	(731.8)	(859.2)	(937.2)	(1,027.8)	(1,299.8)	(4.7)	(4.7)	(4.6)	(3.7)	(3.8)	58.9	60.1	56.9	39.2	49.9
Machines and transport equipment.....	6,012.1	7,076.2	8,233.9	10,085.1	13,054.5	38.8	39.0	38.6	35.5	38.2					
To CMEA.....	(4,773.9)	(5,609.0)	(6,598.0)	(7,958.4)	(9,973.5)	(30.8)	(30.9)	(30.9)	(28.8)	(29.2)	79.4	79.3	80.1	78.9	76.4
Other manufactured commodities.....	4,653.1	4,119.0	4,932.3	6,293.5	7,459.4	22.6	22.7	23.1	22.8	21.8					
To CMEA.....	(2,011.2)	(2,376.7)	(2,689.9)	(3,113.8)	(4,247.1)	(13.0)	(13.1)	(12.6)	(11.2)	(12.4)	55.1	57.7	54.5	49.5	56.9
Total import.....	15,489.3	18,132.7	21,355.1	27,624.8	34,160.7	100.0	100.0	100.0	100.0	100.0					
To CMEA.....	(9,205.9)	(10,990.8)	(12,417.8)	(14,637.9)	(19,453.3)	(59.4)	(60.6)	(58.1)	(53.0)	(56.9)	59.4	60.6	58.1	53.0	56.9

Source: G.U.S., "Rocznik statystyczny handlu zagranicznego, 1976," p. 49.

Equally important was the geographic structure of Polish trade in fuels. In 1971 and 1972 more than 90 percent of the Polish import of fuels were supplied from within the CMEA region, mainly from the U.S.S.R., while only 53.0 percent in 1971 and 56.5 percent in 1972 were exported to other CMEA countries. As the intra-CMEA prices lagged during that period behind the world prices, this geographic distribution was favourable to Poland. However, in 1974 and 1975 the CMEA share in both import and export of fuels declined, a fact which will be referred to later.

On the other hand, during the whole period 1971-75 Poland was a net exporter of fuels to the CMEA. The excess of export over import increased in 1972 and, again, in 1973. Subsequently it declined and reached a relatively low level in 1975. To the extent to which lower prices were received in the CMEA market than outside the bloc, the positive balance of trade in fuels with those countries implied a loss to the Polish economy. This loss was, however, more than compensated if the difference between the world prices and the intra-CMEA prices was approximately the same in respect of foodstuffs and, particularly, other materials than in respect of fuels. When the three groups of primary products (food, beverages, and tobacco; raw materials other than for food; and fuels) are taken together, Poland was a net importer in her trade with other CMEA countries during the period (see table VII).

TABLE VII.—TRADE BETWEEN POLAND AND OTHER CMEA COUNTRIES: NET EXPORT (+) OR NEW IMPORT (-) IN MILLION ZLOTYS

Group of commodities, SITC classification	1971	1972	1973	1974	1975
1. Food, beverages, tobacco.....	-641.8	-58.6	-92.1	-80.2	-11.5
2. Raw materials other than for food.....	-1,053.9	-1,121.5	-1,129.4	-1,243.6	-1,556.0
3. Fuels.....	212.4	308.7	384.5	380.5	56.4
Total.....	-1,483.3	-871.4	-837.0	-943.3	-1,511.1
4. Chemicals.....	207.7	292.5	371.6	273.3	215.6
5. Machines and equipment.....	561.4	616.0	299.2	692.4	2,437.1
6. Other manufactured commodities.....	-437.1	-464.9	-318.3	-102.0	53.9
Total.....	282.0	443.6	352.5	863.7	2,706.6
Total trade with CMEA.....	-1,201.3	-427.8	-484.5	-79.6	1,195.5

Source: Tables V and VI.

No information is available on the prices of individual imports and exports. It is, however, possible to calculate average prices for the major groups. The usefulness of this exercise is obviously very limited. The average price for the entire group is affected by changes in the proportions of trade with other CMEA countries and the rest of the world, by changes within the group as to its commodity structure and by changes in the quality and other factors which affect the relative prices of individual commodities which belong to the group. For these reasons the average prices can be used even as a rough indicator only in the case of relatively homogeneous groups, such as primary products. There is no point to calculate the average prices in the case of manufactured goods (chemicals, machines and equipment, and manufactured consumption goods), where the commodity groups are usually more heterogeneous and differences in quality,

technological specifications and modernity are quite substantial and very important for prices.

From the list of the most important Polish imports some 14 items have been selected, fuels and materials, which together represented between 17 and 22 per cent of the total value of imports in the 1970 to 1975 period (at current prices) (see table VIII). Table IX presents value, quantity and unit price of these imports and in table X annual increases in quantity and in unit price are compared. The biggest increases in unit prices took place in respect of phosphorites and apatites (164.41 per cent in 1974—as this is a somewhat heterogeneous group a change in its composition could affect this increase), rye (145.57 per cent 1974), coking coal (117.54 per cent in 1975), crude oil (106.91 per cent in 1975) and natural gas (102.37 per cent in 1975). In some cases quantities imported were reduced when a big increase in the price of the commodity occurred. For example, there was a 5.01 per cent decline in the imported quantity of crude oil when its unit price increased by 25.23 per cent; 8.89 per cent reduction in the imported quantity of coking coal when its unit price increased by 117.54 per cent, and a 1.20 per cent reduction in the quantity of iron ore when its unit price increased by 35.51 per cent. Such decreases were, however, usually limited to one year only. Often increases in prices were associated with considerable increases in the quantities imported. For example, the 145.57 per cent increase in the unit price of rye in 1974 was associated with a 221.7 per cent increase in its import. Some decreases in the unit price were also associated with decreases in import (rye in 1975). To some extent the changes in the quantities could have been affected more by expectations as to the future movements of prices and changes in domestic production rather than by the current price changes. It seems, however, that on the whole there was very little freedom of manoeuvre for the planners in respect of these imports.

TABLE VIII.—POLAND: RELATIVE SHARE OF FUELS AND SELECTED MATERIALS IN THE TOTAL VALUE OF IMPORT (THOUSAND ZLOTYS, CURRENT PRICES)

Commodity	1970	1971	1972	1973	1974	1975
1. Crude oil.....	3.1	3.3	3.3	3.0	2.7	5.8
2. Petroleum products.....	2.3	2.0	1.7	1.9	2.1	2.3
Total.....	5.4	5.3	5.0	4.9	4.8	8.1
3. Natural gas.....	.4	.6	.5	.4	.4	.7
4. Coking Coal.....	.4	.5	.4	.3	.2	.4
Total, 1-4.....	6.2	6.4	5.9	5.6	5.4	9.2
5. Iron ore.....	3.0	2.9	2.5	2.0	1.9	2.1
6. Pig iron.....	1.9	1.8	1.4	1.1	.9	1.3
7. Phosphorites and apatites.....	.7	.8	.7	.5	1.1	1.4
8. Potassium fertilizers.....	1.7	1.6	1.3	1.1	.9	1.2
Total, 5-8.....	7.3	7.1	5.9	4.7	4.8	6.0
9. Cotton.....	3.1	2.7	2.4	1.7	1.7	1.6
10. Oilseeds.....	.8	.7	1.0	1.9	1.5	1.1
11. Wheat.....	2.2	3.5	1.7	1.7	1.7	1.7
12. Barley.....	1.2	.7	1.1	.9	1.2	1.3
13. Rye.....	.1	.2	.1	.0	.1	.1
14. Corn.....	.4	.4	.3	.7	.9	.7
Total, 9-14.....	7.8	8.2	6.6	6.9	7.1	6.5
Total, 14 items.....	21.3	21.7	18.4	17.2	17.3	21.7

Source: G.U.S. "Rocznik statystyczny handlu zagranicznego, 1971" (Statistical Yearbook of International Trade, 1971. Warsaw, 1971, pp. 38-45. G.U.S. "Rocznik statystyczny handlu zagranicznego, 1976," pp. 28-35.

TABLE IX.—POLAND: IMPORT OF FUELS AND SELECTED MATERIALS

[Value, quantity, and unit price]

Year	Crude oil				Petroleum products				Coking coal			
	Percent of total value of import	Thousands of zlotys	Thousands of tons	Unit price	Percent of total value of import	Thousands of zlotys	Thousands of tons	Unit price	Percent of total value of import	Thousands of zlotys	Thousands of tons	Unit price
1965	2.6	244,550	3,215.6	76.05	3.3	304,316	2,248.0	135.37	0.8	74,371	1,209.6	61.48
1966	2.2	218,583	3,346.7	65.31	2.9	292,304	2,341.6	124.83	.6	63,982	1,141.3	56.06
1967	2.2	234,300	3,608.1	64.94	3.3	347,168	2,873.9	120.80	.6	66,944	1,212.8	55.20
1968	3.1	359,489	5,581.5	64.41	2.9	329,583	2,534.9	130.02	.6	69,134	1,255.6	55.06
1969	3.3	418,718	6,510.1	64.32	2.5	322,320	2,396.7	134.48	.5	60,856	1,087.9	55.94
1970	3.1	451,653	7,010.7	64.42	2.3	338,131	2,423.9	139.50	.4	61,328	1,095.0	56.01
1971	3.3	525,800	7,987.4	65.83	2.0	328,152	2,267.2	144.74	.5	74,988	1,263.5	59.35
1972	3.3	653,439	9,703.3	67.34	1.7	338,809	2,332.0	145.29	.4	79,160	1,156.6	68.44
1973	3.0	786,411	11,140.4	70.59	1.9	507,755	3,079.2	164.90	.3	77,967	1,165.1	66.92
1974	2.7	935,515	10,582.3	88.40	2.1	738,867	3,019.2	244.72	.2	81,699	1,203.0	67.91
1975	5.8	2,433,694	13,305.7	182.91	2.3	976,762	3,133.2	311.75	.4	161,932	1,096.1	147.73

Year	Natural gas				Iron ore				Pig iron			
	Percent of total value of import	Thousands of zlotys	Thousands of tons	Unit price	Percent of total value of import	Thousands of zlotys	Thousands of tons	Unit price	Percent of total value of import	Thousands of zlotys	Thousands of tons	Unit price
1965	0.1	11,600	379.5	30.57	4.0	375,343	9,273.5	40.5	1.9	177,249	793.1	223.5
1966	.2	21,457	701.8	30.57	3.5	350,871	9,429.2	37.2	1.5	145,816	775.4	188.1
1967	.6	65,608	1,108.7	59.18	3.5	373,462	10,056.4	37.1	1.2	128,573	694.1	185.2
1968	.5	61,464	999.7	61.48	3.6	406,541	11,105.9	36.6	1.5	174,312	943.7	184.7
1969	.5	61,103	993.8	61.43	3.3	424,305	11,575.1	36.7	1.7	223,635	1,211.7	184.6
1970	.4	61,635	1,002.4	61.49	3.0	439,508	11,842.7	37.1	1.9	275,784	1,488.5	185.3
1971	.6	91,478	1,487.7	61.49	2.9	468,438	12,430.2	37.7	1.8	289,227	1,552.4	186.3
1972	.5	92,237	1,500.1	61.49	2.5	482,283	12,547.9	38.5	1.4	273,826	1,471.0	186.1
1973	.4	105,123	1,709.7	61.49	2.0	531,241	13,667.5	38.9	1.1	280,996	1,498.0	187.6
1974	.4	130,176	2,116.9	61.49	1.9	646,502	15,609.3	41.4	0.9	309,938	1,661.9	186.5
1975	.7	312,293	2,509.5	124.44	2.1	865,954	15,422.6	56.1	1.3	544,149	1,797.6	302.7



TABLE X.—POLAND: IMPORT OF FUELS AND SELECTED MATERIALS: ANNUAL INCREASES IN QUANTITY AND UNIT PRICES

Commodity	1971	1972	1973	1974	1975
Crude oil:					
Quantity .....	13.93	21.48	14.81	-5.01	25.74
Unit price .....	2.19	2.29	4.83	25.23	106.91
Petroleum products:					
Quantity .....	-6.46	2.86	32.04	-1.95	3.78
Unit price .....	3.76	0.38	13.50	48.41	27.39
Natural gas:					
Quantity .....	48.41	0.83	13.97	23.82	18.5
Unit price .....	0	0	0	0	102.37
Coking coal:					
Quantity .....	15.39	-8.46	0.73	3.25	-8.89
Unit price .....	5.96	15.32	-2.22	1.48	117.54
Iron ore:					
Quantity .....	4.96	0.95	8.92	14.21	-1.20
Unit price .....	1.62	2.16	1.04	6.43	35.51
Pig iron:					
Quantity .....	4.29	-5.24	1.84	10.94	8.17
Unit price .....	0.54	-0.11	0.81	-0.59	62.31
Phosphorites and apatites:					
Quantity .....	22.20	16.16	-11.85	13.28	15.64
Unit price .....	-1.76	-2.78	2.86	164.41	32.48
Potassium fertilizers:					
Quantity .....	-0.26	-3.79	14.87	9.76	10.35
Unit price .....	8.74	1.01	-0.91	0.08	46.48
Cotton:					
Quantity .....	-3.97	8.40	-7.62	4.40	5.47
Unit price .....	3.45	-3.11	0.82	29.82	9.89
Oilseeds:					
Quantity .....	1.02	71.98	32.78	10.0	19.48
Unit price .....	-2.34	4.76	92.92	-2.78	-25.10
Wheat:					
Quantity .....	73.86	-33.31	27.16	8.55	-15.97
Unit price .....	1.47	-10.87	6.52	19.89	41.36
Barley:					
Quantity .....	-43.66	116.24	-41.40	45.43	21.25
Unit price .....	23.00	-13.81	79.92	25.68	0.48
Rye:					
Quantity .....	99.28	2.52	-79.39	221.7	-8.20
Unit price .....	0	-13.83	-1.81	145.57	-27.50
Corn:					
Quantity .....	15.40	26.55	102.81	11.75	-17.13
Unit price .....	1.12	-16.29	29.12	56.40	12.08

Source: Table VIII.

Similarly, there seemed to be very little possibility of substituting the cheaper CMEA sources of imports for the relatively more expensive sources in the rest of the world. On the contrary, the proportion supplied by the CMEA countries to the total quantity imported declined at least for one year in many cases (see table XI).

TABLE XI.—POLAND: SHARE OF IMPORT OF FUELS AND SELECTED MATERIALS SUPPLIED BY THE CMEA COUNTRIES  
[In thousands of tons, except natural gas]

Commodity	1970	1971	1972	1973	1974	1975
Crude oil:						
Total import .....	7,011	7,987	9,703	11,140	10,582	13,306
U.S.S.R. ....	7,011	7,987	9,703	10,570	9,755	10,882
Other CMEA .....						
Total CMEA .....	7,011	7,987	9,703	10,570	9,755	10,882
CMEA/total (percent) .....	100.00	100.00	100.00	94.88	92.18	81.78
Petroleum products:						
Total import .....	2,417	2,267	2,332	3,079	3,019	3,133
U.S.S.R. ....	1,573	1,304	1,286	1,334	1,316	1,266
Other CMEA .....	623	456	592	334	346	330
Total CMEA .....	2,196	1,760	1,878	1,668	1,662	1,596
CMEA/total (percent) .....	90.86	77.64	80.53	54.17	55.05	50.94
Natural gas (million cubic meters):						
Total import .....	1,002	1,488	1,500	1,710	2,117	2,510
U.S.S.R. ....	1,002	1,488	1,500	1,710	2,117	2,510
Other CMEA .....						
Total CMEA .....	1,002	1,488	1,500	1,710	2,117	2,510

See footnote at end of table.

TABLE XI.—POLAND: SHARE OF IMPORT OF FUELS AND SELECTED MATERIALS SUPPLIED BY THE CMEA COUNTRIES  
 [In thousands of tons, except natural gas]

Commodity	1970	1971	1972	1973	1974	1975
Coking coal:						
CMEA/total (percent)	100.00	100.00	100.00	100.00	100.00	100.00
Total import	1,096	1,264	1,157	1,165	1,203	1,096
U.S.S.R.	802	816	808	827	809	813
Other CMEA	293	337	348	300	296	283
Total CMEA	1,095	1,153	1,156	1,127	1,105	1,096
CMEA/total (percent)	100.00	91.22	100.00	96.74	91.85	100.00
Iron ore:						
Total import	11,843	12,430	12,548	13,668	15,609	15,423
U.S.S.R.	9,913	10,312	10,624	11,096	11,379	11,106
Other CMEA	1,930	2,118	1,924	2,572	4,230	4,317
Total CMEA	9,913	10,312	10,624	11,096	11,379	11,106
CMEA/total (percent)	83.70	82.96	84.67	81.18	72.90	72.01
Pig iron:						
Total import	1,485	1,552	1,471	1,498	1,662	1,798
U.S.S.R.	1,478	1,536	1,452	1,474	1,623	1,499
Other CMEA	7	16	19	24	39	99
Total CMEA	1,478	1,536	1,459	1,484	1,652	1,609
CMEA/total (percent)	99.53	99.97	99.18	99.07	99.40	89.49
Phosphorites and apatites:						
Total import	2,018	2,466	2,864	2,525	2,861	3,308
U.S.S.R.	662	953	1,223	981	741	806
Other CMEA	375	494	1,641	1,544	2,120	2,502
Total CMEA	1,037	1,447	1,223	981	741	806
CMEA/total (percent)	51.39	58.68	42.70	38.85	25.90	24.37
Potassium fertilizers:						
Total import	2,197	2,191	2,108	2,422	2,658	2,933
U.S.S.R.	965	1,219	1,219	1,320	1,577	1,797
Other CMEA	1,065	922	751	921	1,042	1,117
Total CMEA	2,030	2,127	1,970	2,241	2,619	2,915
CMEA/total (percent)	92.40	97.80	93.45	92.53	98.53	99.35
Cotton:						
Total import	151	145	157	145	152	160
U.S.S.R.	103	104	95	93	110	110
Other CMEA	48	41	62	52	42	50
Total CMEA	103	104	95	93	110	110
CMEA/total (percent)	68.21	71.72	60.51	64.14	72.37	68.75
Grind oilseeds:						
Total imports	313		543	721	794	948
U.S.S.R.						
Other CMEA						
Total CMEA						
CMEA/total (percent)	0		0	0	0	0
Wheat:						
Total imports	1,099	1,910	1,274	1,620	1,758	1,477
U.S.S.R.	1,025	1,817	1,078	1,006	1,642	752
Other CMEA	74	93	196	614	116	725
Total CMEA	1,025	1,817	1,078	1,006	1,642	830
CMEA/total (percent)						
Barley:						
Total imports	1,093	616	1,332	700	1,135	1,376
U.S.S.R.	30	179	102	21	206	262
Other CMEA	1,063	437	1,230	679	929	1,114
Total CMEA	30	179	102	21	206	262
CMEA/total (percent)	2.74	29.06	7.66	3.00	18.15	19.04
Rye:						
Total imports			114	23	76	69
U.S.S.R.						
Other CMEA						
Total CMEA						
CMEA/total (percent)			0	0	0	0
Corn:						
Total imports	231	267	338	684	765	634
U.S.S.R.			69	78	16	
Other CMEA	35	21	269	17	122	
Total CMEA	35	21	69	95	138	
CMEA/total (percent)	15.15	7.87	20.41	13.89	0	0

Source: G.U.S., "Rocznik statystyczny handlu zagranicznego 1971," pp. 106-254; 1972, pp. 404-407; 1973, pp. 416-420; 1974, pp. 212-222; 1976, pp. 92-196.

Finally, there was only a limited success with import substitution in the case of those among the selected fuels and materials which could also be produced within the country (see table XII). The proportion of import to domestic production plus import was greater in 1975 than in 1970 in the case of crude oil, natural coal gas, iron ore and wheat. The proportion was lower in the case of petroleum products, coking coal, barley and corn. It was approximately unchanged in the case of rye (which was also insignificant).

TABLE XII.—POLAND: DOMESTIC PRODUCTION AND IMPORT OF FUELS AND SELECTED MATERIALS

Commodity	1970	1971	1972	1973	1974	1975
<b>Crude oil (thousand tons):</b>						
Domestic production.....	424	395	347	392	550	553
Import.....	7,011	7,987	9,703	11,140	10,582	13,306
Total.....	7,435	8,382	10,050	11,532	11,132	13,859
Import/total (percent).....	94.30	95.29	96.55	96.60	95.06	96.00
<b>Petroleum products (thousand tons):</b>						
Domestic production.....	7,471	8,331	9,983	10,876	11,416	13,516
Import.....	2,424	2,267	2,332	3,079	3,019	3,133
Total.....	9,895	10,598	12,315	13,955	14,435	16,649
Import/total (percent).....	24.50	21.39	18.94	22.06	20.91	18.82
<b>Natural gas (million cubic meters):</b>						
Domestic production of natural gas.....	5,182	5,383	5,823	6,027	5,739	5,963
Import.....	1,002	1,488	1,500	1,710	2,117	2,510
Total.....	6,682	6,782	6,942	7,145	7,280	7,337
Domestic production of coal gas.....	12,866	13,653	14,265	14,882	15,136	15,810
Total.....	7.79	10.90	10.52	11.49	13.99	15.88
Import/total (percent).....						
<b>Coking coal (million tons):</b>						
Domestic production.....	29.5	31.7	33.4	35.1	36.1	36.8
Import.....	1.1	1.3	1.2	1.2	1.2	1.1
Total.....	30.6	33.0	34.6	36.3	37.3	37.9
Import/total (percent).....	3.59	3.94	3.47	3.31	3.22	2.90
<b>Iron ore (thousand tons):</b>						
Domestic production.....	2,554	2,078	1,656	1,413	1,296	1,192
Import.....	11,843	12,430	12,548	13,668	15,609	15,423
Total.....	14,397	14,508	14,204	15,081	16,905	16,615
Import/total (percent).....	82.26	85.68	88.34	90.63	92.33	92.83
<b>Wheat (thousand tons):</b>						
Domestic production.....	4,608	5,456	5,147	5,807	6,409	5,207
Import.....	1,099	1,910	1,274	1,620	1,758	1,477
Total.....	5,707	7,366	6,421	7,427	8,167	6,684
Import/total (percent).....	19.26	25.93	19.84	21.81	21.53	22.10
<b>Rye (thousand tons):</b>						
Domestic production.....	5,433	7,827	8,149	8,268	7,881	6,270
Import.....	56	111	114	24	76	69
Total.....	5,489	7,938	8,263	8,292	7,957	6,339
Import/total (percent).....	1.02	1.40	1.38	0.00	0.96	1.09
<b>Barley (thousand tons):</b>						
Domestic production.....	2,149	2,450	2,750	3,138	3,908	3,638
Import.....	1,093	616	1,332	780	1,135	1,376
Total.....	3,242	3,066	4,082	3,918	5,043	5,014
Import/total (percent).....	33.71	20.09	32.63	19.91	22.51	27.44
<b>Corn (thousand tons):</b>						
Domestic production.....	12	13	10	13	19	79
Import.....	231	267	338	685	765	634
Total.....	243	280	348	698	784	713
Import/total (percent).....	95.06	95.36	97.13	98.14	97.58	88.92

Source: G.U.S., "Rocznik statystyczny 1976," pp. 135, 239. G.U.S., "Rocznik statystyczny handlu zagranicznego," pp. 28-35.

Table XIII presents the value, quantity and unit price of the four Polish exports of fuels: coal, coke, lignite, and petroleum products and Table XIV the balance of trade in fuels calculated at current and constant prices. In respect of fuels the difference between the balance at current prices and constant prices was favourable to Poland in all years between 1970 and 1975. If foodstuffs and materials were added to fuels the difference could have had an adverse effect. As, however, the other two groups are composed of much greater numbers of small items, it is difficult to make similar calculations.

TABLE XIII.—POLAND: EXPORT OF FUELS

Year:	Coal				Coke				Lignite				Petroleum products			
	Percent of total export	Thou- sand zloty's	Thou- sand tons	Unit price	Percent	Thou- sand zloty's	Thou- sand tons	Unit price	Percent	Thou- sand zloty's	Thou- sand tons	Unit price	Percent of total export	Thou- sand zloty's	Thou- sand tons	Unit price
1950.....	34.93	886,084	26,569	33.35	111,922	1,794	62.39	26,096	3,726	7.00	976	1.1	887.3			
1955.....	40.72	1,497,899	24,146	62.04	181,699	2,240	81.12	33,348	4,058	8.22	14,145	151.0	93.68			
1960.....	16.2	858,338	17,497	49.06	4.1 219,773	2,086	105.36	1.4 73,955	5,455	13.56	0.4 23,292	221.4	105.20			
1961.....	13.7	825,488	17,053	48.41	221,460	2,139	103.53	78,940	5,872	13.44	28,343	296.1	95.72			
1962.....	12.7	837,026	17,306	48.37	220,898	2,145	102.98	76,165	5,660	13.46	50,018	573.0	87.29			
1963.....	11.7	828,709	16,892	49.06	237,004	2,352	100.77	77,215	5,736	13.46	49,234	589.6	83.50			
1964.....	11.6	970,158	19,268	50.35	234,641	2,249	104.33	73,064	5,381	13.58	43,163	586.0	73.66			
1965.....	11.7	1,039,514	21,045	49.39	2.5 219,904	2,324	94.62	.8 67,584	5,199	13.00	.6 54,490	1,027.1	53.05			
1966.....	11.7	1,059,291	22,407	47.28	204,922	2,358	86.91	63,401	5,060	12.53	32,676	518.7	63.00			
1967.....	11.0	1,107,802	24,029	46.10	208,444	2,355	88.51	45,240	3,706	12.21	49,895	672.7	74.17			
1968.....	10.2	1,164,918	26,002	44.80	210,659	2,410	87.41	48,043	4,002	12.00	90,762	1,473.0	61.62			
1969.....	9.4	1,183,258	26,374	44.86	1.6 206,232	2,324	88.74	.4 54,865	4,381	12.52	94,261	1,694.8	55.62			
1970.....	9.6	1,357,773	28,816	47.12	1.6 224,876	2,398	98.46	.3 47,878	3,972	12.05	7	104,612	1,315.5	79.52		
1971.....	11.4	1,767,631	30,301	58.34	232,758	2,269	97.06	42,735	3,561	12.00	91,279	1,068.6	85.42			
1972.....	10.9	1,978,220	32,687	60.52	274,993	2,780	121.20	55,811	4,106	13.59	120,296	1,723.4	69.80			
1973.....	9.8	2,102,325	35,857	58.63	302,326	2,780	108.75	65,130	4,968	13.11	123,773	1,332.3	92.90			
1974.....	12.6	3,474,869	40,093	86.67	1.4 376,850	2,992	125.95	.2 68,226	5,199	13.12	1.0 264,273	1,177.4	224.45			
1975.....	16.0	5,480,091	38,479	142.42	2.1 705,836	3,137	225.00	.3 105,583	3,442	30.67	1.1 263,360	1,601.2	226.31			

Source: G.U.S., "Rocznik statystyczny handlu zagranicznego, 1971," pp. 46-53. G.U.S., "Rocznik statystyczny handlu zagranicznego, 1976," pp. 36-43.

TABLE XIV.—POLAND: IMPORT AND EXPORT OF FUELS AT CONSTANT 1968 PRICES AND AT CURRENT PRICES

[In thousands of zlotys]

## (a) IMPORT OF FUELS AT CONSTANT 1968 PRICES AND AT CURRENT PRICES

Year:	Crude oil (constant prices)	Petroleum products (constant prices)	Natural gas (constant prices)	Coking coal (constant prices)	Total, 4 items at constant prices	4 items at current prices	Differ- ences
1968.....	359,489	329,583	61,464	69,134	819,670	819,670	0
1969.....	419,316	311,619	61,103	59,900	851,938	871,636	19,698
1970.....	451,559	315,038	61,628	60,291	888,516	912,747	24,231
1971.....	514,458	294,781	91,464	69,568	970,281	1,020,418	50,137
1972.....	624,990	303,207	92,226	63,682	1,084,105	1,163,645	79,540
1973.....	717,553	400,358	105,112	64,150	1,287,173	1,477,256	190,083
1974.....	681,606	392,556	130,147	66,237	1,270,546	1,886,257	615,711
1975.....	857,020	407,379	154,284	60,351	1,479,034	3,884,681	2,405,647

## (b) EXPORT OF FUELS AT CONSTANT AND 1968 PRICES AND AT CURRENT PRICES

Year:							
1968.....	1,164,918	210,659	48,043	90,762	1,514,382	1,514,382	0
1969.....	1,181,555	203,141	52,572	104,434	1,541,702	1,538,616	3,086
1970.....	1,290,957	199,644	47,664	81,061	1,619,326	1,735,139	115,813
1971.....	1,357,485	209,609	42,735	65,847	1,675,676	2,134,403	458,727
1972.....	1,464,378	198,333	49,272	106,196	1,818,179	2,429,320	611,141
1973.....	1,606,394	243,000	59,616	82,096	1,748,349	2,593,554	845,205
1974.....	1,796,166	261,531	62,388	72,551	2,192,636	4,184,218	1,991,582
1975.....	1,723,859	274,205	41,304	98,666	2,138,034	6,653,870	4,515,336

## (c) BALANCE OF TRADE IN FUELS AT CONSTANT 1968 PRICES AND AT CURRENT PRICES

Year:	Balance in current prices			Balance in constant prices			Difference between balance at current prices and balance at constant prices
	Import	Export	Balance	Import	Export	Balance	
	1968.....	819,670	1,514,382	+694,712	819,670	1,514,382	
1969.....	871,636	1,538,616	+666,980	851,938	1,541,702	+689,764	-22,784
1970.....	912,747	1,735,139	+822,392	888,516	1,619,326	+730,810	+91,582
1971.....	1,020,418	2,134,403	+1,113,985	970,281	1,675,676	+705,395	+408,590
1972.....	1,163,645	2,429,320	+1,265,675	1,084,105	1,818,179	+734,074	+531,601
1973.....	1,477,256	2,593,554	+1,116,298	1,287,173	1,748,349	+461,176	+655,122
1974.....	1,886,257	4,184,218	+2,297,961	1,270,546	2,192,636	+922,090	+1,375,871
1975.....	3,884,681	6,653,870	+2,769,189	1,479,034	2,138,034	+659,000	+2,110,189

Source: Tables IX and XIII.

## 4. Poland's Indebtedness

Polish balance of payments statistics are not published. From various comments which can be found in the Polish literature<sup>9</sup> it appears that the equilibrium balance of payment implies a deficit in the balance of trade which is covered by receipts from the railway transit operations (the Soviet and GDR mutual trade and the Czechoslovak access to the Baltic ports) and gifts which the population receives from the relatives who live abroad.

<sup>9</sup> P. Bożyk, B. Wojciechowski, *Handel zagraniczny Polski 1945-1969* (The International Trade of Poland 1945-1969), Warsaw 1971, pp. 248-280.

No complete information exists on the form in which Poland's borrowing took place. It seems that a substantial part was in the form of short-run suppliers' credit and this part probably creates an immediate problem. The long-term loans, mainly from the banks, were obtained largely for the expansion of the copper and coal mining. They seem to be well secured by relatively rich deposits and the efficient and modern mining technology and considerable engineering experience in this field. The loan which was obtained from Krupp during Gierek's visit to the Federal Republic of Germany for the gasification of coal is in the same category. The long-term loans from Western corporations which are granted in connection with the industrial cooperation agreements, under which parts are produced in Poland for export to other countries, are also of the same "self liquidating" nature and should not create problems under normal circumstances. A prolonged recession in the West can, however, affect the ability to repay them.

Poland's total net hard currency indebtedness increased from \$4.4 billion at the end of 1974 to \$7.1 billion at the end of 1975. The ratio of this last figure to the volume of hard currency exports represents 2:1 which is not an unduly heavy burden for a country which in 1975 was the fourth most important producer of coal in the world, the second largest producer of sulphur and the ninth largest producer of copper.<sup>10</sup>

In order to reduce any further increase in foreign indebtedness there was some reduction in the rate of investment and import in 1975. The Plan for 1976-80 envisages, although rather unrealistically, the achievement of a positive balance of trade before the end of the five year period. This objective is to be achieved by a more moderate investment policy, with new investments almost entirely restricted to export promoting or import substituting projects, relatively small increases in consumption and a considerable expansion of exports with the help of the productive capacities which were either created or modernized and expanded during the investment drive of 1971-75.

### 5. *The Insulation System*

The index of "prices of goods and services bought by the population" increased by 2.7 per cent in 1973, 6.6 per cent in 1974 and 2.9 per cent in 1975 (see table XV). These were the biggest increases ever recorded since the end of the postwar inflation of the late 1940's.<sup>11</sup> Increases in the index of "consumption goods" alone were even higher (3, 7.2 and 3.2 percent respectively). However these increases were much smaller than the increases in import prices in general (8.8, 16.9 and 14 per cent). They were particularly small in comparison with the increases in the unit prices of imported fuels and some other essential materials which were examined above.

<sup>10</sup> See Z.M. Fallenbuchl, "The Polish Economy in the 1970's" in this volume; net hard currency indebtedness as calculated by the Chase Manhattan Bank.

<sup>11</sup> Z. M. Fallenbuchl, "Economic Policy of the Period of Transition from Capitalism to Socialism," *The Canadian Slavonic Papers*, v. IX, No. 2, 1967.

TABLE XV.—POLAND : ANNUAL CHANGES IN PRICES OF GOODS AND SERVICES BOUGHT BY THE POPULATION (PERCENT)

Index	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975
Goods and services bought by the population.....	1.2	1.5	1.5	1.3	1.1	0.4	0	2.7	6.6	2.9
Consumption goods.....	0	1.4	1.5	1.5	1.2	-2	-1	3.0	7.2	3.2
Food only.....	(-9)	(1.3)	(2.6)	(2.7)	(2.2)	(2.5)	(-1)	(1.1)	(6.2)	(5)
Nonconsumptions goods.....	1.8	.5	.3	.1	.8	5.7	.1	1.0	2.1	1.0
Services.....	8.1	2.8	2.7	.3	.8	.5	.7	2.2	6.3	2.5

Source: 1966-70 G.U.S., "Ceny, 1974" (Prices 1974), Warsaw, 1974, pp. 2-3. 1971-75 G.U.S., "Rocznik statystyczny," 1976, p. 389.

In the Soviet-type economies, even of a modified sort like Poland's in the early 1970's, there are two insulating layers between the world prices and the prices charged to the consumers. International trade organizations, and those industrial enterprises or associations (the so-called "big economic organizations" or W.O.G), which under the Polish "new economic and financial system" are allowed to get involved directly in international trade, conduct their foreign transactions in "devisa zlotys" and at prices which they actually earn or pay in the foreign markets. However, the domestic side of these transactions, the supply of goods for export and the supply of imports to the economy, takes place at the domestic zlotys and at domestic prices. Losses and extra profits resulting from the differences between the external and domestic prices are covered from or are transferred to the state budget.

An essential part of the systemic modifications which were introduced in the early 1970's was an attempt to make the foreign trade prices more meaningful for economic decisions of industrial enterprises. There were two price reforms, as from January 1st 1971 and, again, from January 1st 1975. They concerned the domestic prices of producers' goods, including fuels and materials. At the same time, however, the retail prices were kept relatively stable, and those of some basic foodstuffs completely fixed, partly for political reasons and partly to ensure that the incentive effect of higher wages is not lost. Losses resulting from this policy were, again, compensated from the state budget.

Two points should be considered in connection with this insulation system. First, the Polish index of prices of commodities bought by the population, like most official indices of this nature in practically all countries, does not show the full extent of price increases. The enterprises can introduce higher prices for "new products." Some of these products may be insignificantly modified. Others may really be of a higher quality, or a new type, but as the old ones are withdrawn from production, the consumers have no choice in this matter. There may also be some commodities which are virtually the same despite their designation as "new."<sup>12</sup> Control in these matters is very difficult. It is not only in the interest of the enterprises but also the supervising industrial ministries to achieve high proportions of "new products" as this feature is accepted as a sign of progress and there are some bonuses for such activity. Moreover, the price increases of this nature

<sup>12</sup> J. Mujzel, "Zmiany poziomu cen w gospodarce socjalistycznej," (Changes in the Price Level in a Socialist Economy), *Ekonomista*, No. 4, 1974, pp. 817-843. See also Brown, Fallenbuchl, Licari, Neuberger, *op. cit.*

increase the value of output, a welcome feature not only from the point of view of the enterprises but also the ministries and the central planning office. The authorities are interested to maintain the stability of the official price index, they therefore control the prices of those commodities that are recorded in the index and allow increases in the case of "new products."

Second, there is some real social cost to this insulation system both in the form of price distortions which tend to reduce efficiency and in the form of a burden of subsidies on the state budget. These subsidies adversely affect the financing of investment or some other economic and social activities, if revenue cannot be increased without destroying or diminishing the system of incentives.

Some indication of the degree of inflation and its nature can be obtained by comparing Net Material Product at current and constant prices, thereby getting the implicit NMP deflator. From 1971 to 1975 NMP increased from 855 billion zlotys to 1,357 billion at current and to 1,261 billion at constant 1971 prices. It may also be interesting to compare the difference between the Gross Industrial Product, Net Industrial Product and Material costs calculated at current and constant prices (see Table XVI). Material costs represented a higher proportion of gross industrial product when calculated at current than when they are calculated at constant prices. Their annual increase was higher in current prices than in constant prices and the ratio of current to constant prices was higher in every year than the ratio of current to constant prices of global and net product. There is some obvious evidence of inflation and the observations about the material costs suggest that some materials generated inflation was present. At least partly, it was caused by higher prices of imported fuels and raw materials.

TABLE XVI.—POLAND: GROSS INDUSTRIAL PRODUCT, NET INDUSTRIAL PRODUCT, AND MATERIAL COSTS AT CURRENT AND CONSTANT PRICES (1971)

	1970	1971	1972	1973	1974	1975
<b>At current prices:</b>						
Gross industrial product (zloty's).....	1, 167, 866	1, 273, 765	1, 405, 331	1, 580, 812	1, 907, 636	2, 184, 998
Net industrial product (zloty's).....	394, 304	419, 039	455, 589	525, 211	664, 551	782, 963
Material costs (zloty's).....	773, 562	854, 726	949, 742	1, 055, 601	1, 243, 085	1, 402, 963
Material costs as percent of gross industrial product.....	66.24	67.10	67.58	66.78	65.16	64.21
Increase of material costs (percent).....		10.49	11.12	11.15	17.76	12.79
<b>At constant prices:</b>						
Gross industrial product (zloty's).....	1, 079, 345	1, 164, 307	1, 288, 682	1, 433, 613	1, 596, 450	1, 771, 161
Net industrial product (zloty's).....	394, 302	427, 805	472, 279	526, 948	590, 164	657, 451
Material costs (zloty's).....	685, 043	736, 502	816, 403	906, 665	1, 006, 286	1, 113, 710
Material costs as percent of gross industrial product.....	63.47	63.26	63.35	63.24	63.03	62.88
Increase of material costs (percent).....		7.51	10.85	11.06	10.99	10.68
<b>Ratio of current to constant prices:</b>						
Gross industrial product.....	1.082	1.094	1.091	1.103	1.195	1.234
Net industrial product.....	1.000	.980	.965	.997	1.126	1.191
Material costs.....	1.129	1.161	1.163	1.164	1.235	1.259

Source: G.U.S., "Rocznik statystyczny, 1976," pp. 147, 150, 151.

## 6. Propagation

In 1971-75 fuels and materials for further production represented about 60 per cent of total Polish imports. The cost of these items must have provided, therefore, the main channel through which the

world inflation transmitted to Poland was propagated throughout the domestic economy. Increases in wages which are induced by increases in the prices of imported consumption goods and the domestically produced consumption goods using more expensive imported producers' goods can also be regarded as an element in the propagation mechanism. In Poland in 1971-75 increases in wages were, however, mainly autonomous in the sense that they were connected with Gierek's new development strategy and with the political and social pressures which appeared after the 1970 workers' riots and the change in the leadership.

In table XVII the annual rates of growth of net production in socialist industry calculated in constant prices is compared with the rates of growth of material costs and their two component parts, outlays on raw materials and outlays on fuels, and with wages, calculated in current prices. Except in 1973, the rates of growth of material costs in current prices were higher than those of net industrial production at constant prices. On the other hand, the rates of growth of wages at current prices were lower than the rates of growth of net industrial production at constant prices, except in 1975. It seems that the rates of growth of material costs were pushed up by increases in outlays on raw materials and in some years (1971, 1974 and 1975) by increases in outlays on fuels. As in 1971-74 wages were increasing by less than material costs at current prices and even less than net industrial production at constant prices, it appears that they were less responsible for inflationary pressures than increases in outlays on raw materials and fuels until 1975. A very rapid increase in wages in the socialist industry which occurred in 1975 may, however, be an indication of a price-wage spiral starting to operate.

TABLE XVII.—POLAND: TOTAL MATERIAL COSTS IN SOCIALIST INDUSTRY, OUTLAYS ON RAW MATERIALS, OUTLAYS ON FUELS, AND WAGES (CURRENT PRICES) COMPARED WITH NET PRODUCTION AT CONSTANT PRICES

	Million zloty's					Rates of change (percent)					Average 1971-75	
	1970	1971	1972	1973	1974	1975	1971	1972	1973	1974		1975
Material costs.....	773.3	854.4	949.4	1,055.2	1,242.6	1,401.5	10.5	11.1	11.1	17.8	12.8	12.7
Materials.....	623.3	688.6	769.0	856.8	1,007.7	1,136.6	10.5	11.7	11.4	17.6	12.8	12.8
Fuels.....	22.4	26.5	26.6	28.5	38.5	44.8	18.3	.4	7.1	35.1	16.4	15.5
Wages.....	128.6	139.7	153.6	167.7	186.9	224.9	8.6	9.9	9.2	11.4	20.3	11.9
Net production (constant prices)....	379.8	414.4	457.9	511.0	573.3	639.9	9.1	10.5	11.6	12.2	11.6	11.0

Source: G.U.S. "Rocznik statystyczny, 1976," pp. 150, 151.

The increases in the prices of raw materials and fuels charged to the enterprises, which are suggested by the above calculations, and even more so the increases in retail prices charged to the population shown by the official index, are smaller than the increases in the unit prices of fuels and raw materials which were examined above. This suggests that considerable subsidies had to be paid to international trade organizations and those industrial enterprises which were involved directly in foreign trade and then, again, to industrial enterprises and/or domestic trade organizations to compensate them all for their losses.

### 7. *The Price Equalization System*

In the Polish public finance system the price equalization taxes and subsidies are kept separate from other taxes and subsidies. Taxes are collected when, for example, prices paid by the procurement agencies to the producers of agricultural products are lower than the prices at which these agencies sell the products to the rest of the economy (the food industry, domestic and foreign trade, etc.). Another important example is provided by international trade. Taxes are collected when the domestic prices of imported commodities are higher than the prices of imports plus the trading margins charged by the international trade organizations, or the domestic prices of exported commodities are lower than the prices obtained in the export markets. The foreign trade prices are recalculated into the domestic currency by special coefficients which differ from the official rates of exchange, as the latter are completely artificial.

Subsidies are paid in the reverse situation. The two examples given by the Statistical Office refer, again, to agricultural prices and foreign trade prices.<sup>13</sup> They are made when the procurement prices paid to the agricultural producers are above those charged to the rest of the economy when the products are resold. In international trade they are paid when the domestic prices are lower than the prices of imports or higher than those which are received for exports.

Table XVIII shows that the price equalization taxes were growing rapidly until 1970, they were higher than subsidies, and the positive gap between the two reached its maximum in that year. At the beginning of 1971 new prices of materials were introduced. This was an attempt to introduce a greater degree of rationality into the pricing system and, among other things, to reduce the difference between the domestic and the world prices. Both price equalization taxes and price equalization subsidies declined drastically in 1971.

Another factor which had a considerable effect on the level of these taxes and subsidies was Gierek's new agricultural policy. In order to stimulate agricultural output and deliveries, substantial increases in prices were made starting with 1971 and compulsory deliveries were abolished as from January 1, 1972. The effect of this policy was a reduction in the amount of price equalization taxes. At the same time, since the workers' riots of December 1970, the prices of some basic foodstuffs have been kept constant. As a result, these prices were kept below the prices paid to the agricultural producers, the difference being covered by the price equalization subsidies.

As can be seen in table XVIII, total revenue from the price equalization taxes declined in 1971 to slightly above 50 percent of its 1970 level and the total amount of subsidies decreased from 77,369 million to 48,869 million. Net taxes (the difference between taxes and subsidies) were positive until 1971 and were growing until 1970. They declined to +0.88 percent of total budgetary revenue in 1971. Starting with 1972, negative balances appeared (net subsidies) and they were growing quite rapidly from one year to another. At least partly this situation must have been caused by the impact of world inflation, which together with the decision to keep domestic prices more stable

<sup>13</sup> See for example, G.U.S. "Rocznik statystyczny 1971," (Statistical Yearbook 1971), Warsaw 1971, pp. 601-602.

TABLE XVIII.—POLAND: PRICE EQUALIZATION SUBSIDIES AND TAXES

[Million zlotys, current prices]

	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975
Price equalization taxes.....	69,167	78,879	87,835	93,714	100,181	52,417	43,919	40,015	42,552	39,912
Price equalization subsidies.....	62,049	66,865	77,076	75,603	77,369	48,869	56,960	74,948	128,019	165,467
State budget: Total revenue.....	323,313	326,666	329,686	357,609	389,602	403,483	438,296	483,835	604,142	720,140
Price equalization subsidies as percent of total revenue.....	19.19	20.47	23.38	21.14	19.86	12.11	13.00	15.49	21.19	22.98
Net subsidies (—) or taxes (+).....	+7,118	+12,014	+10,759	+18,111	+22,812	+3,548	-13,041	-34,933	-85,467	-125,555
Net subsidies (—) or taxes (+) as percent of total revenue.....	+2.20	+3.68	+3.26	+5.06	+5.86	+0.88	-2.98	-7.22	-14.15	-17.43
Budgetary outlays on investment and major repairs.....	68,673	67,427	59,700	54,780	50,528	53,931	92,032	101,602	111,794	120,301
Budgetary outlays on education, science, culture, and health (operating).....	50,672	55,285	59,216	62,956	63,404	66,612	76,258	88,529	98,769	111,224
Gross fixed investment outlays in the economy.....	150,317	167,205	181,839	197,707	207,093	244,805	302,870	379,219	465,629	541,131
Price equalization subsidies as percent of gross fixed investment.....	41.28	39.99	42.39	38.24	37.36	19.96	18.81	19.76	27.49	30.58
Net subsidies (—) or taxes (+) as percent of gross fixed investment.....	+4.74	+7.19	+5.92	+9.16	+11.02	+1.45	-4.31	-9.21	-18.36	-23.20

Source: G.U.S., "Rocznik statystyczny 1970" (Statistical Yearbook 1970) Warsaw 1970, pp. 536, 537; G.U.S., "Rocznik statystyczny 1976," pp. 494, 495, 496.

than the world prices, resulted in the rapid increase in the price equalization subsidies. It is interesting to note that this factor seemed to have a relatively small effect on the taxes which declined in 1973, increased in 1974, and dropped to their lowest level in 1975. In other words, the taxes collected as the result of the excess of export prices over the domestic prices of the exportable commodities were not sufficiently large to compensate for the decline in taxes which was caused by the abolishment of compulsory deliveries and the increases in the prices paid to the agricultural producers.

There were two important consequences of these developments. First, the 1971 price reform was completely frustrated. The sum of the price equalization taxes and subsidies, which may be accepted as an indicator of price distortions (or at least of some of them), declined very significantly in 1971. The sum was almost back at the same level in 1974 and, despite a new price reform which took place as from January 1st, 1975, it exceeded that level in that year. Secondly, while the net taxes represented an additional source of budgetary revenue, the net subsidies quickly became a considerable burden for the budget. In 1970 the net taxes represented almost half of total budgetary outlays on investment and major repairs. In terms of the GNP accounting they were equal to 11 percent of gross fixed investment in the economy. In 1975 the net subsidies were equal to 17.43 percent of the total budgetary revenue; they were somewhat higher than the total budgetary outlays on investment and major repairs and almost 13 percent higher than the total budgetary operating expenditures on education, science, culture and health. In terms of the GNP accounting they were equal to almost a quarter of gross fixed investment (23.20 percent). A burden of this size must have reduced the budgetary freedom of maneuver and must have made the task of increasing both investment and the standard of living at the same time more difficult. It probably contributed, together with the inefficiencies resulting from price distortions, to the government's economic difficulties which appeared in 1975 and 1976.

Only part of the increases in price equalization subsidies were caused by the world inflation. In order to estimate this part it would be necessary to know the amount of taxes and subsidies which were required in connection with foreign trade transactions. Unfortunately, no exact information on this point is available. Some rough indication may be obtained from Table XIX which presents the distribution of the equalization taxes and subsidies among the sectors of the economy. There are, however, a number of complications. (1) For the years 1969-75 "subsidies" include not only the price equalization subsidies but also the so-called "subject subsidies" which are paid to compensate the enterprises for certain lines of production which are planned to be unprofitable irrespective of the price equalization problems. To some extent these subsidies play a similar role to that of the price equalization subsidies but they are not identical. It is important to note that in the years for which separate figures of the "subject subsidies" are available (1965-1968), these subsidies were not applicable to foreign trade. It is, therefore, possible to assume that whenever there is only one figure available for the two types of subsidies in the case of foreign trade these figures represent the price equalization subsidies only.

TABLE XIX.—POLAND: PRICE EQUALIZATION TAXES AND SUBSIDIES ACCORDING TO SECTORS

[In millions of zlotys]

Sector	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975
<b>Industry:</b>											
Tax.....	5,839	4,832	7,130	7,642	7,063	5,687	10,999	6,758	7,067	23,942	35,097
Sub (1).....	4,370	4,780	2,616	55	12,530	12,355	27,351	39,605	46,639	68,122	75,789
Sub (2).....	2,152	2,847	10,592	11,248							
<b>Construction:</b>											
Tax.....	0	3	7	8	9	8	7	5	7	20	66
Sub (1).....	0				}	}	}	}	}	}	}
Sub (2).....	4			1							
<b>Agriculture and forestry:</b>											
Tax.....	158	161	152	175	183	151	187	135	8	8	90
Sub (1).....	548	452	519	677	4,146	4,699	4,696	11,305	13,149	17,500	20,748
Sub (2).....	0										
<b>Transportation and communications:</b>											
Tax.....	1	0	0	5	11	93	364	365	353	58	138
Sub (1).....	797	973	919	1,082	1,553	530	325	647	557	3,521	4,394
Sub (2).....	625	736	616	619							
<b>Trade—domestic:</b>											
Tax.....	1,152	1,483	1,626	1,657	87,459	4,298	2,767	2,081	2,381	36,510	32,641
Sub (1).....	880	1,443	2,611	2,702							
Sub (2).....	1,420	1,625	3,108	3,650							
<b>Trade—foreign:</b>											
Tax.....	53,586	62,688	69,962	78,345	75,716	92,775	31,935	46,542	28,148	90,725	111,706
Sub (1).....	51,098	54,397	60,196	69,741							
Sub (2).....											
<b>Housing and communal economy:</b>											
Tax.....	0	0	0	0	1,192	1	3	5	4	0	
Sub (1).....	3,637	2,410	2,009	1,123	}	1,446	2,332	2,758	6,069	9,083	9,581
Sub (2).....											
<b>Other:</b>											
Tax.....	0	0	0	0	0	1,275	267	1,138	1,292	1,520	1,409
Sub.....	0	0	0	0	0	162	13	103	15	43	80

Note: The "subject" subsidies are given separate for the year 1965-68 and marked (2), while the price equalization subsidies are marked (1). Starting with 1969 only 1 figure for the 2 subsidies added together is available.

Sources: G.U.S., "Budzet Państwa 1965-68" (State Budget 1965-68), Warsaw 1969, pp. 6 and 9; G.U.S., "Rocznik statystyczny 1970," p. 550; 1971, p. 617; 1972, p. 583; 1973, p. 604; 1974, p. 604; 1975, p. 518; 1976, p. 514.

(2) The data on taxes do not include the difference between the procurement price of potatoes which are used for the production of alcohol. The amounts are not, however, large. (3) As the result of the introduction of the new financial system as from January 1st, 1971, the sector "industry" has assumed responsibility for some "export tasks" from the sector "trade". A marked increase in the price equalization subsidies which occurred in that and in subsequent years reflects, therefore, the losses connected with the differences between foreign and domestic prices, i.e. are directly caused by the world inflation.<sup>14</sup>

(4) In the years for which separate data are provided for domestic and foreign trade the latter sector received more than 90 per cent of the combined trade subsidies (domestic and foreign trade) in 1965-68 and just under 90 in 1970. The share of foreign trade subsidies declined to 79.03 per cent in 1971, the year in which the price reform was effected. In the following year it increased, however, already to 81.32 per cent. It seems reasonable to assume that at least about 80 per cent of trade subsidies in 1973-75, the years for which only the combined subsidies for foreign and domestic trade are available, were allocated to foreign trade organizations. In 1965-68 over 97 per cent of the combined taxes were paid by the foreign trade sector. The share was 95.57 per cent in 1970. It declined in 1971, probably as the result of the price reform, but increased to 95.72 per cent again in 1972. It seems reasonable that about 95 per cent of the combined price equalization taxes were collected from the foreign trade organizations.

It is impossible to ascertain the exact amounts of subsidies and taxes which were made necessary because of the world inflation and the decision to keep domestic prices more stable than the world prices. Table XIX provides, however, an approximate indication of the size of the amounts involved.

If we assume that at least 80 percent of "trade" subsidies were paid to the foreign trade organizations and 25 percent of "industry" subsidies were connected with foreign trade transactions of the industrial enterprises, about 89,600 million in 1974 and 108,300 million in 1975 were allocated from the state budget to compensate for the difference between the prices of imports and domestic prices (assuming that no exports were sold below the domestic prices during that period). These figures should be compared with, for example, the total budgetary outlays for investment and major repairs of 111,794 million in 1974 and 120,301 million in 1975, or the total budgetary outlays on education, science, culture and health of 98,769 million and 111,224 million in these two years respectively.

Assuming that 95 percent of the combined "trade" taxes and 25 percent of the "industry" taxes were collected because the export prices exceeded the domestic prices of exported commodities, the total amounts were 40,671 million in 1974 and 39,783 million in 1975. These two sets of figures would give the net subsidies (the excess of subsidies over taxes) of 48,900 million in 1974 and 68,500 million in 1975.

There cannot be any doubt that the budgetary burden of the net foreign trade price equalization subsidies of this size must have been

<sup>14</sup> See, for example, G.U.S., *Finanse przedsiębiorstw uspołecznonych 1974* (Finances of the Socialist Enterprises 1974), Warsaw 1974, p. 12 and G.U.S., *Rocznik statystyczny 1972* (Statistical Yearbook 1972), Warsaw 1972, p. 569.

very heavy. It should be noted that until the world inflation had its impact on the prices of Polish imports and exports, there were net price equalization taxes every year. This additional source of accumulation was eliminated and replaced by a serious and growing drain on the budgetary funds. These calculations also suggest that a large part of the price distortions which increased, and frustrated the 1971 and 1975 price reforms, were caused by the world inflation and attempts to protect the economy from its direct effect.

### *8. Conclusion*

Poland provides a good example of a country which attempted to insulate the domestic economy against the impact of world inflation and to contain the external disturbances as much as possible at the first insulation layer. This was done not by a revision in the exchange rate, or coefficients of currency exchange, but by price equalization subsidies. In order to strengthen the insulation layer some systemic reforms were stopped and even reversed. For example, various funds which had been accumulated by the economic organizations were frozen and the direct link between their performance and the ability to improve remuneration and working conditions, or to effect some minor investment, was cut off.

However, even in Poland, where there was a somewhat limited transmission because of the limited role of international trade and the specific commodity and geographic composition of trade, the first insulation layer was unable to stop the whole impact. Some propagation took place, mainly through increases in the costs of fuels and materials. The second layer was also utilized. Some impact on the retail prices was, however, recorded by the official price index, and the actual increases were probably still higher. Some of them were likely classified as prices for new products. In the case of the prices for basic foodstuffs the leaders were forced by the opposition of the population to withdraw their attempt to pass some of the price increases to the retail price level. There the pressure was mainly, but not exclusively, of internal origin. To the extent to which the domestic production of fertilizers was supplemented by imports and the production of meat, the most important commodity in this group, was based on imported feeds, the effect of the propagation of the external disturbances was also present.

On the other hand, considerable improvements in wages, pensions and welfare payments were allowed for internal policy reasons. They should, therefore, be regarded as autonomous movements from the point of view of the impact of international disturbances.

It seems that the economy had to pay a high price for the policy of containing world inflation. There was a rapid increase in the budgetary burden of price equalization subsidies, which reduced its ability to invest and/or to expand other budgetary outlays. There was also an increase in the degree of price distortions, which must have had an adverse effect on the overall economic efficiency. It is, of course,

difficult to say to what extent the disappointingly small success in expanding exports to the advanced countries in the West, which resulted in the underfulfilment of the export plans in this direction and the overfulfilment of the plans for export to other C.M.E.A. countries, was caused by the loss of efficiency resulting from the choice of the strategy of containing world inflation. It is, however, possible to expect that there was some connection.

### III. THE CASE OF YUGOSLAVIA

#### 1. *An Overview of Some Important Characteristics of Yugoslavia's Foreign Trade*

Before analyzing the impact of the 1973-74 worldwide inflation of commodity prices on Yugoslavia, it is necessary to examine briefly some of the major characteristics of Yugoslav foreign trade. The first thing to note is the relatively high degree of openness of the Yugoslav economy. During the 1971-74 period, imports averaged about 29 percent of gross domestic material product.<sup>15</sup> Trade ratios of this magnitude are characteristic of market economies of similar size and development level, such as Greece and Portugal, where the comparable figures were 22 and 34 percent during the same period.<sup>16</sup> Unfortunately, because of differences in domestic and foreign prices in planned economies, it is impossible to use trade ratios to compare the degree of openness in Yugoslavia and in similar East European economies. Indirect comparisons based on figures for per capita imports, and still subject to severe price and exchange rate limitations, indicate that Yugoslavia with per capita imports of \$361 in 1975,<sup>17</sup> is more dependent on trade than Romania, comparable to Poland with per capita imports of \$369, and less dependent than all the other East European countries.

The second thing to note about Yugoslavia's foreign trade performance is the persistence of a substantial balance of trade deficit as the figures in table XX reveal. During the 1971-75 period, the trade deficit ranged between a low of 17 billion dinars in 1972 and a high of 63 billion dinars in 1974. These overall figures mask the specific geographical pattern of the deficit. The major share of the deficit arises in trade with western industrial countries. For example, in 1973, 1974, and 1975, the share of the deficit arising in this segment of trade was 74, 75 and 89 percent, respectively. In contrast, trade with centrally planned economies is balanced, with only minor net surpluses or deficits in each year. The same conclusion applies to trade with developing countries. Only in 1974 and 1975 did the trade deficit with these countries increase sharply due primarily to the oil price rises. Even then, the magnitude of the deficit was small relative to the deficit realized in trade with the industrial West.

<sup>15</sup> This figure is calculated from data in Table A, Appendix, *O.E.C.D. Yugoslavia*, 1976.

<sup>16</sup> These figures are calculated from data in I.M.F. *International Financial Statistics*, February, 1977.

<sup>17</sup> This figure is calculated from data in Table K, Appendix, *O.E.C.D. Yugoslavia*, 1976.

TABLE XX.—YUGOSLAVIA'S INTERNATIONAL TRADE

	1970	1971	1972	1973	1974	1975
Millions of current dinars: <sup>1</sup>						
Imports.....	48,857	55,284	54,957	76,689	127,837	130,844
Exports.....	28,544	30,845	38,033	48,494	64,678	69,228
Balance of trade.....	-20,313	-24,439	-16,924	-28,195	-63,159	-61,616
Balance as percent of exports.....	71.2	79.2	44.5	58.1	97.7	89.0
Rates of growth (percent):						
Imports (current prices).....		13.2	-0.6	39.5	66.7	2.4
Exports (current prices).....		8.1	23.3	27.5	33.4	7.0
Imports (constant prices) <sup>2</sup> .....		9.3	-6.1	16.9	14.4	-2.9
Exports (constant prices) <sup>2</sup> .....		3.8	17.3	6.3	1.0	-2.0
Balance of trade (current prices).....		+20.3	-30.7	+66.6	+224.0	-2.4

<sup>1</sup> \$1 equals 17 dinars.

<sup>2</sup> 1975 prices equal 100.

Source: SZS, "Statisticki Godisnjak, 1976."

The trade deficit in Yugoslavia is offset to an important extent by two items in the invisibles account: earnings from tourism and remittances from workers temporarily employed abroad. Between 1971 and 1975, receipts from these sources equaled about 63 percent of receipts from total merchandise exports. As a result of earnings from these two items, the current account deficit has been significantly smaller than the balance of trade deficit as the figures in table XXVI illustrate. Because of the importance of these items in Yugoslavia, they serve as potential channels by which international economic disturbances influence the domestic economic situation. For example, the stagnation in Western Europe in 1974-75 encouraged a marked slowdown in the annual rate of growth of tourism earnings from an average of 29 percent in 1971-73 to an average of 8.4 percent in 1974-75; and in the annual rate of growth of worker remittances from an average of 39.2 percent in 1971-73 to 11.2 percent in 1974-75. Slowdowns in receipts from these sources exacerbated the problem of financing the growing trade deficit in these years. In addition, depressed conditions in Western Europe stemmed the net outflow of Yugoslav workers and generated a net return of about 50,000 workers per year in 1974-75.<sup>18</sup> The net inflow of labor, of course, worsened the unemployment problem in Yugoslavia, and provided yet another channel whereby the western stagnation influenced domestic economic conditions.

Because of the commodity composition of Yugoslavia's foreign trade, described in table XXI, the worldwide inflation in 1974 caused a net deterioration of about 11 percent in Yugoslavia's net barter terms of trade. This overall deterioration was the result of an adverse shift in the terms of trade for fuel and raw materials, products for which Yugoslavia is a net importer. As the data in table XXII reveal, the terms of trade worsened noticeably for these product categories and for food in 1974. Only in chemicals, processed materials, and machinery and equipment did the terms of trade improve, but not sufficiently to offset an overall deterioration.

<sup>18</sup> This figure is reported in The Federal Planning Office document, "Analytical Basis for the Documents of the Social Plan of Yugoslavia from the Period 1976-80," Belgrade, 1976. Higher estimates of a net inflow of 100,000 workers per year have been reported in *Ekonomika Politika*, May 17, 1976.

TABLE XXI.—YUGOSLAVIA: COMMODITY COMPOSITION OF IMPORT AND EXPORT  
(SITC CLASSIFICATION, CURRENT PRICES)

	Millions dinars					Percent of total				
	1971	1972	1973	1974	1975	1971	1972	1973	1974	1975
<b>IMPORTS</b>										
Food, beverage, tobacco.....	5,036	5,249	8,636	11,323	7,133	9.1	9.6	11.3	8.9	5.5
Raw materials.....	5,299	5,715	8,260	17,073	12,558	9.6	10.4	10.8	13.4	9.6
Fuels.....	3,274	2,998	6,092	16,169	16,030	5.9	5.5	7.9	12.6	12.3
Animal and vegetable oils.....	826	715	367	912	1,779	1.5	1.3	.5	.7	1.4
Chemicals.....	5,054	5,930	7,650	13,787	14,177	9.1	10.8	10.0	10.8	10.9
Machinery and equipment.....	17,299	17,317	24,060	33,298	44,456	31.3	31.5	31.4	26.0	34.0
Other manufactures.....	18,496	17,033	21,624	35,275	34,711	33.5	30.9	28.1	27.6	26.3
<b>Total.....</b>	<b>55,284</b>	<b>54,957</b>	<b>76,689</b>	<b>127,837</b>	<b>130,844</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
<b>EXPORTS</b>										
Food, beverage, tobacco.....	5,418	6,659	7,805	7,008	8,132	17.6	17.5	16.1	10.8	11.8
Raw materials.....	2,523	3,135	4,668	6,122	4,799	8.2	8.2	9.7	9.5	6.9
Fuels.....	337	302	370	693	511	1.1	.8	.8	1.1	.7
Animal and vegetable oils.....	72	19	47	135	26	.2		.1	.2	
Chemicals.....	2,197	2,430	2,998	6,522	6,450	7.1	6.4	6.2	10.1	9.3
Machinery and equipment.....	7,558	9,292	11,975	15,010	19,406	24.5	24.4	24.7	23.2	28.0
Other manufactures.....	12,740	16,196	20,631	29,188	29,904	41.3	42.7	42.4	45.1	43.3
<b>Total.....</b>	<b>30,845</b>	<b>38,033</b>	<b>48,494</b>	<b>64,678</b>	<b>69,228</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

Source: SZS, "Statistički Godišnjak, 1976," pp. 238-239.

TABLE XXII.—YUGOSLAVIA: EXPORT AND IMPORT PRICES AND TERMS OF TRADE, 1971-75—Continued  
(Annual percentage changes)

	1971	1972	1973	1974	1975
<b>Export Price Index.....</b>	<b>5.3</b>	<b>5.0</b>	<b>20.6</b>	<b>31.6</b>	<b>9.0</b>
Food.....	4.6	14.7	30.8	-2.0	4.0
Raw materials.....	8.5	3.9	64.2	14.9	-2.1
Fuels.....	9.8	2.2	23.9	75.4	8.0
Chemicals.....	4.3	4.1	5.9	85.2	3.0
Machinery and equipment.....	12.9	2.8	16.7	19.1	24.0
Processed materials.....	-3.5	1.8	17.9	51.5	4.0
<b>Import Price Index.....</b>	<b>3.8</b>	<b>7.4</b>	<b>17.2</b>	<b>47.1</b>	<b>5.0</b>
Food.....	3.3	0	40.3	14.9	7.0
Raw materials.....	-4.2	8.7	26.0	58.7	0
Fuels.....	28.6	0	29.6	285.7	4.0
Chemicals.....	-1.7	1.7	17.2	47.0	2.0
Machinery and equipment.....	8.1	13.4	11.8	17.6	11.0
Processed materials.....	-1.6	1.6	16.1	38.9	11.0
<b>Terms of trade.....</b>	<b>1.4</b>	<b>-2.2</b>	<b>2.9</b>	<b>-10.5</b>	<b>3.8</b>
Food.....	1.3	14.7	-6.8	-14.7	-2.8
Raw materials.....	13.3	-4.4	30.3	-27.6	-2.1
Fuels.....	-14.6	2.2	-4.4	-38.6	3.9
Chemicals.....	6.1	2.4	-9.6	26.0	1.0
Machinery and equipment.....	4.4	-9.3	4.4	1.3	11.7
Processed materials.....	-1.9	.2	1.6	9.1	-6.3

Source: SZS, "Statistički Godišnjak, 1976," pp. 232-233.

The domestic impact of the worldwide inflation was somewhat moderated by the fact that over half of Yugoslav imports and exports consist of machinery and other manufactured products whose world prices rose at a slower rate than did fuel and material prices in 1974. The total of the food, raw material, and fuel categories accounted for over one-third of imports only in that one year, when the prices of these goods rose dramatically. Before 1974, and again in 1975, these categories accounted for about 30 percent or less of total imports.

Machinery and other manufactured goods play an even more dominant role in Yugoslav export trade. In every year between 1971 and 1975, these two categories accounted for about two-thirds of Yugoslav exports. In contrast, raw materials and fuels amounted to only about 10% of total exports. When this is combined with the fact that total Yugoslav exports are considerably smaller than total imports, it becomes clear why Yugoslavia was not able to gain a net benefit from commodity price increases in world markets.

Given the significant balance of trade deficit ranging from a low of 44.5 percent to a high of 97.7 percent of Yugoslav exports, (as shown in table XX) a rise in world market prices of the 1973-74 magnitude would have created havoc with the Yugoslav balance of trade, even if both import and export prices had risen at the same rate leaving the terms of trade unchanged.

The geographical redistribution of Yugoslav exports and imports was very similar to that of Poland during the 1973-75 period. Although Yugoslav imports from socialist economies increased by an average annual rate of about 25 percent between 1971 and 1975, they remained approximately the same share of total imports (see table XXIII). In 1974, when a partial reorientation towards socialist markets might have been anticipated, their share in the total value of Yugoslav imports actually declined reflecting the more rapid growth of imports in value terms from the LDC's and, to a lesser extent, from western markets. In contrast to imports, exports to planned economies actually increased as a share of total exports in 1974 and again in 1975, largely in response to stagnation in traditional western markets for Yugoslav exports.

TABLE XXIII.—YUGOSLAV FOREIGN TRADE BY GEOGRAPHICAL AREA

	[Percent of total]				
	1971	1972	1973	1974	1975
<b>Exports:</b>					
OECD countries.....	52.9	56.9	55.7	46.6	35.7
Planned economies <sup>1</sup> .....	36.7	36.1	34.0	41.6	47.2
LDC's.....	10.4	7.0	10.3	11.8	17.1
<b>Imports:</b>					
OECD countries.....	65.8	65.4	62.5	60.5	60.8
Planned economies <sup>1</sup> .....	23.9	24.8	24.8	23.3	24.8
LDC's.....	10.3	9.8	12.7	16.2	14.4

<sup>1</sup> Includes CMEA, China, and Albania.

Source: Table L, appendix, OECD, "Yugoslavia, 1976."

The data in table XXIV indicate the important role played by CMEA countries in Yugoslav imports of some of the fuels and raw materials whose prices rose sharply on world markets in 1974. Yugoslavia depended on CMEA sources for dominant shares of its imports of coal, coke and chemical fertilizers and for significant shares of its imports of crude oil and cotton fiber. As an observer rather than a full member of CMEA, Yugoslavia was unable to purchase these imports at intra-CMEA prices which lagged behind world prices. Nonetheless, the figures in table XXIV suggest that the prices which CMEA sellers charged Yugoslav buyers did not rise nearly fast as the prices charged by non-CMEA sellers for coke and cotton fiber. In addition, the CMEA price for coal exports to Yugoslavia did not rise as fast as the world price of coal, as measured by the cost per short ton of

U.S. coal (which rose by about 70 percent in 1974). On the other hand, CMEA and non-CMEA prices for oil and fertilizer imports by Yugoslavia increased at roughly the same rate.

TABLE XXIV.—YUGOSLAVIA: IMPORTANT RAW MATERIAL AND FUEL IMPORTS IN 1973 AND 1974

	Share of CMEA sources in—			
	Total volume		Total value	
	1973	1974	1973	1974
Crude oil.....	27.7	28.3	26.9	27.3
Coal <sup>1</sup> .....	92.5	100.0	89.2	100.0
Coke.....	81.3	81.3	74.5	68.8
Cotton fiber.....	46.7	43.6	45.0	39.5
Fertilizer:				
Natural phosphate.....	1.5	1.6	1.8	2.0
Chemical.....	93.7	91.0	87.6	83.2

PERCENT INCREASE IN IMPORT UNIT PRICE IN 1974

	CMEA sources	Non-CMEA sources
Crude oil.....	345.6	348.0
Coal <sup>1</sup> .....	48.7	-----
Coke.....	58.4	209.2
Cotton fiber.....	77.7	95.7
Fertilizer:		
Natural phosphate.....	290.8	283.4
Chemical fertilizer.....	78.4	75.0

<sup>1</sup> Coal includes anthracite, coking pit coal and gas coal.

Source: "Statistika Spoljne Trgovine SFR Jugoslavije, 1973 and 1974."

These results suggest that at least for imports of coke and cotton fiber, and possibly also for imports of coal, Yugoslav dependence on CMEA sources acted to mitigate the effects of the worldwide commodity price inflation in 1974. Despite the lower rate of inflation of CMEA prices for these commodities, however, the CMEA share in the total volume of Yugoslav imports remained roughly constant in 1974. Only in the case of coal did the CMEA share increase noticeably from 92.5 percent in 1973 to 100 percent in 1974. In evaluating the evidence presented in table XXIV, we must be careful to take account of possible differences in the quality or the nature of imports from the two sources. These differences cannot be captured by the comparison of unit values presented in the table.

As the data in table XXIII reveal, the most marked alteration in the geographical composition of Yugoslav trade during the 1971-75 period was the increase in the share of Yugoslav exports sold in eastern markets in 1974 and 1975. Faced with declining markets in Western Europe, caused partly by the oil-induced recession and partly by the ban on Yugoslav exports of beef to the EEC in 1974, Yugoslav exporters sought out substitute buyers in Eastern Europe. As a result, exports to planned economies increased sharply by 62.9 percent in 1974 and by another 21.7 percent in 1975. This temporary redirection of export trade was undoubtedly instrumental in offsetting some of the impact of declining export demand in Western Europe, but it did nothing to solve the problem of a growing trade deficit with that area.

## 2. The Transmission Process in Yugoslavia

From the data presented in table XXII, it is clear that the world-wide commodity inflation caused dramatic increases in Yugoslavia's export and import prices beginning in 1973. The transmission process focuses on how these increases worked through the foreign trade and exchange network to cause changes in domestic wholesale prices and changes in the quantities of imports and exports. Therefore, a study of the transmission process naturally begins with an analysis of Yugoslavia's foreign trade and exchange systems.

Most East European socialist economies attempt to insulate their domestic wholesale prices from changes in world prices by using a system of taxes and subsidies to divorce domestic and international prices, and by negotiating long-term trade agreements at fixed prices (generally an average of world prices during past years). In contrast, Yugoslavia not only fails to divorce domestic and international prices, but actually facilitates through its price control policy the process by which world price increases cause domestic price increases. According to this policy, the domestic prices of a significant number of commodities are administratively and automatically linked to international prices by formulas which use world prices, the prevailing foreign exchange rate, and existing taxes and subsidies to calculate the appropriate domestic wholesale (producer) prices.<sup>19</sup> By using formulas of this type, the Yugoslav authorities have, in effect, replaced the market mechanism by a system of controls designed to keep domestic relative prices in line with world relative prices. In this way, they have made the transmission mechanism operate even more effectively than it would under normal market conditions.

In the Yugoslav system, as in other market economies, the foreign exchange rate is a crucial link between domestic and international prices. As long as the exchange rate remains fixed, changes in international prices lead directly to corresponding changes in the domestic prices of tradeable goods. During the 1973-75 period examined in this study, the dinar exchange rate was allowed to fluctuate within limits established by the Yugoslav National Bank. Because these limits were fairly narrow, the exchange rate was relatively constant for protracted periods of time. Changes, when they occurred, tended to be large and the result of policy decisions, such as the decision to allow the dinar to depreciate by about 8 percent relative to the dollar in October 1974. This devaluation was one of the many policy responses of the Yugoslav government to the deterioration in the balance of payments which began in mid-1973.<sup>20</sup> The devaluation itself led to further increases in the domestic wholesale prices of tradeables which had already increased in response to rising world prices at constant exchange rates.

Because foreign trade decisions in Yugoslavia are largely decentralized and within the competence of individual enterprises, changes

<sup>19</sup> An example best illustrates how the administrative links between domestic and world market prices operate. In a 1973 social agreement on prices of non-ferrous metals and products, it was determined that domestic prices be set equal to average world futures prices quoted during the last six months, evaluated at the official exchange rate and increased by 3 percent due to tariff protection. See I. Karli, "Neki aktuelni problemi sistema i politike cijena," *Ekonomski Prehled*, 8-9, 1974, pp. 603-632.

<sup>20</sup> The role of devaluation as well as other more technical questions concerning the impact of world inflation on Yugoslavia is discussed in a paper by E. Neuberger and L. Tyson entitled, "Can a Rise in Import Prices be Inflationary and Deflationary: The Case of Yugoslavia." Stony Brook Working Paper number 175 April 1977.

in exchange rates, taxes, subsidies, and domestic and international prices influence foreign trade activity. The government attempts to guide decentralized foreign trade decisions by a number of selective policy tools. In addition to export subsidies (usually in the form of tax reductions or tariff rebates), the Yugoslavs have introduced retention quotas, which allow enterprises to retain a certain portion of their foreign exchange earnings for their own use and preferential rediscount credits to finance the production and sale of exports. On the import side the Yugoslavs have employed tariffs, surcharges, quantitative restrictions, and foreign exchange quotas to limit imports, and selective credit policy to finance the imports of favored commodities.

Government trade and exchange policies of this type are aimed at keeping enterprise decisions, which are based on profitability criteria, consistent with broader social goals. They are generally not designed to prevent the transmission of world market price changes to domestic prices, but they can be used for this purpose under extreme circumstances. For example, in 1974, import duties and import taxes on oil, gas, ferrous metallurgy products and other raw materials were lowered in an attempt to reduce the impact of the rise in world prices on domestic wholesale prices. Government policies can also be used to induce or necessitate changes in the quantities of imports and exports in response to world market conditions. Thus, beginning in 1974 and continuing through 1975, the Yugoslavs increased import taxes, and tightened quantity and foreign exchange quotas to reduce the imports of certain commodities and to stem the growing trade deficit.

### 3. *The Propagation Process*

The Yugoslav foreign exchange and trade systems allowed increases in world prices to cause increases in the domestic wholesale prices of tradeable goods in 1973-75. The magnitude of these "first-round" domestic price increases is suggested by the figures on producer prices contained in table XXV. The propagation process focuses on how these price increases worked through the consumer and producer trade and production networks and the labor market to raise retail prices and wages.

Because the worldwide inflation was largely concentrated in the prices of raw materials and fuels, which are important inputs in production, a crucial step in the propagation process was the pass-through of production costs to the wholesale prices of final products. The link between rising input costs and rising selling prices in Yugoslavia operated through the price control system which covered about 80% of industrial products and most basic food items in the 1973-75 period. This system required that enterprises wishing to raise prices obtain approval from the competent price control agency.<sup>21</sup> Two of the key criteria used by these agencies in deciding whether to approve a price increase were increases in world market prices and increases in production costs. Between 1973 and 1975, when input prices rose dramatically as a result of the worldwide commodity inflation, this price

<sup>21</sup> Federal price control agencies had jurisdiction over major agricultural product prices, most industrial prices, and rail freight rates; republics controlled electricity rates, rail and bus rates, and construction materials; communes controlled rents, community utilities, and retail food prices. Thus, it was the federal and republican control agencies that determined the effectiveness of the propagation mechanism and the impact of increases in the wholesale prices of imports on the prices of other goods.

control system allowed cost increases to be passed on quickly to the wholesale prices of many domestic products. Since retail margins, transportation costs, and turnover taxes remained more or less unchanged for most products, increases in wholesale prices led to proportionate increases in retail prices. This conclusion is consistent with the data in table XXV which indicate that wholesale and retail prices for industrial commodities increased equally by 29.9 percent in 1974.

TABLE XXV.—YUGOSLAVIA: PRICES AND WAGES, 1971-76

	Annual rates of growth (percent)					
	1971	1972	1973	1974	1975	1976 <sup>1</sup>
Industrial producer prices.....	14.8	9.7	13.2	29.9	22	7.2
Raw materials.....	18.4	10.3	12.5	38.9	23	8.2
Investment goods.....	13.2	5.2	9.9	12.4	22	13.7
Consumption goods.....	12.3	12.5	13.9	22.0	21	5.1
Industrial retail prices.....	14.3	17.9	16.7	29.9	26	8.2
Agricultural retail prices.....	17.3	16.4	21.1	16.3	23	17.3
Retail prices of services.....	14.3	10.9	16.9	20.5	26	15.8
Cost of Living Index.....	15.7	16.9	20.3	20.5	24	13.3
Nominal wages.....	23.4	17.2	14.7	28.2	24	14.9
Real wages.....	6.5	1.0	-5.1	6.4	-1	-----

<sup>1</sup> Rate of growth measured from January-July 1976, over the same period of the previous year; figures calculated from data in "Indeks," August 1976, p. 34.

<sup>2</sup> Year-to-year annual growth rates calculated from data in tables 122-2 through 122-6, "Statistički Godišnjak, 1976."  
<sup>3</sup> January-May 1976, relative to same period of previous year; figures calculated from data in "Indeks," August 1976 p. 43.

So far the argument indicates why wholesale and retail prices of tradeables and of those goods which used tradeables as productive inputs rose in 1974. However, this argument does not in itself imply that these individual price increases led to an increase in the aggregate price level or to an increase in the overall rate of inflation.<sup>22</sup> In fact, under conditions of constant or constantly growing nominal aggregate demand, price increases in certain products or sectors should have been offset by reductions in prices or rates of inflation in other commodities, so that the aggregate price level or the aggregate rate of inflation remained constant. These conditions were not satisfied in Yugoslavia just as they were not satisfied in many market economies, because of the presence of nominal and real wage rigidities and consequent price rigidities. These rigidities were rooted in the institutional system of wage and price determination which allowed both prices and wages to be insensitive to conditions of excess supply. The characteristics of this system are discussed in detail elsewhere and need only be summarized here.<sup>23</sup> The majority of industrial commodities in Yugoslavia have "administered" prices set on the basis of cost markups which are only mildly sensitive to the state of product demand. Wages, an important component of production costs, tend to be insensitive to conditions of excess labor supply and tend to be responsive to changes in inflationary expectations because of the wage setting rules of individual self-managed enterprises.

As argued in a previously cited paper,<sup>24</sup> there exists evidence of

<sup>22</sup> For the possible relationships between import-induced sectoral price increases and the aggregate rate of inflation, see M. Miller "Can a Rise in Import Prices be Inflationary and Deflationary: Economists and the U. K. Inflation," "American Economic Review," September, 1976, pp. 507-508.

<sup>23</sup> See L. Tyson, "The Yugoslav Economy in the 1970's: A Survey of Recent Developments and Future Prospects," in this volume.

<sup>24</sup> Neuberger and Tyson, *op. cit.*

downward nominal and even real wage rigidity in Yugoslavia. In the presence of such rigidity, the monetarist conclusion that import induced domestic price increases in some commodities will not cause an increase in the overall rate of inflation must be rejected in favor of the Keynesian conclusion that these increases will generate aggregate inflation.<sup>25</sup> This conclusion holds, as long as there is no offsetting decline in aggregate demand, either policy-induced or caused by other factors.

The existence of wage and price rigidities, and the absence of an offsetting decline in aggregate demand, caused the import-induced price increases in certain commodities to foster an increase in the overall rate of inflation in Yugoslavia in 1974, as the data in table XXV suggest.

In analyzing real wage resistance, it is essential to specify the price index according to which real wage calculations are made. In Yugoslavia, as in many Western market economies, workers tend to regard the cost-of-living index as the appropriate deflator.<sup>26</sup> Since this index includes services and nontradeables, especially many food items not involved in Yugoslav foreign trade, there is no reason to anticipate a one-to-one relationship between increases in wholesale prices or even retail prices caused by changes in world market prices and increases in the cost-of-living index. In fact, in 1974, because of a good harvest, and partly because of a relatively moderate increase in the prices of many services, the cost of living increased by 20.5 percent, as compared to a 29.9 percent rise in both the wholesale and retail price indexes for industrial goods. Thus, the choice of a deflator is significant, and worker pressure for increases in nominal wages was somewhat less intense in 1974, than it would have been if the wholesale or retail price index had been considered the relevant one.

Counteracting this moderating trend was a rapid growth of nominal wages by 28 percent in 1974, to make up for stagnant and declining real wages in 1972 and 1973, caused in part by poor harvests, and in part by a partial wage freeze in 1973.

#### 4. *The Containment Process*

The containment process refers to all of the policies and systemic changes designed to moderate or impede the transmission and/or propagation of world price increases. In Yugoslavia in 1974, the containment mechanism was extremely weak, as a result of three elements in the Yugoslav economic strategy for that year. First, as noted above, Yugoslav leaders were committed to a policy of linking domestic prices of tradeables to world prices in order to achieve a rational domestic price system. A containment policy aimed at interfering with the transmission process was clearly at odds with this objective. Second, from mid-1973 to mid-1975, an expansionary macroeconomic policy was pursued to foster economic growth and employment. The firm commitment to this policy made it impossible to introduce demand

<sup>25</sup> The Keynesian model also implies that the import price increases will have an aggregate contractionary effect on the economy if they cause a deterioration in the overall terms of trade and a resulting real income loss. This occurred in Yugoslavia in 1974, and is discussed in our paper cited above.

<sup>26</sup> In the U.K., however, wages of about one third of the labour force were tied to the retail price index, according to Miller, *op. cit.*, p. 501.

reducing measures to control domestic inflation.<sup>27</sup> Finally, because of the stagnation of real wages in 1972 and 1973, the Yugoslav government was reluctant to adopt a strict incomes policy to control inflationary pressure at the expense of labor incomes.<sup>28</sup>

Under these circumstances, the Yugoslavs were able to introduce only relatively weak containment policies, such as the reductions in tariffs discussed above, and small reductions in the turnover taxes on a few commodities, including gasoline, other fuel products, and a few basic consumer goods. These measures were too weak and too isolated to have any major impact on the aggregate rate of inflation.

The results of the Yugoslav economic strategy in 1974 are evident from the data in tables XXV and XXVI. First, the primary objective of achieving a rapid growth rate was realized in 1974 and through the first half of 1975. Second, the overall rate of inflation increased sharply between 1973 and 1974. Third, the combination of rapid inflation and rapid growth along with a deterioration in the aggregate terms of trade and stagnating demand in world export markets—conditions over which the Yugoslavs had little control—caused a sharp deterioration in the balance of trade and consequent reserve losses.

TABLE XXVI.—YUGOSLAVIA: INDICATORS OF MACROECONOMIC PERFORMANCE, 1971-1976

	1971	1972	1973	1974	1975	1975, 1st half	1975, 2d half	1976
Annual rates of growth (percent):								
Real social product <sup>1</sup> .....	8.1	4.3	4.9	8.5	3.3	-----	-----	0
Nonagricultural production <sup>2</sup> .....	8.2	6.2	3.9	10.0	6.2	7.4	5.2	-----
Industrial production <sup>3</sup> .....	10.3	8.1	5.8	10.9	5.4	8.3	3.5	3.8
Millions of U.S. dollars: <sup>4</sup>								
Balance of trade.....	-1,268	-727	-1,299	-3,184	-2,907	-1,939	-968	<sup>5</sup> -1,711
Current account balance.....	-388	415	491	-1,226	-925	-714	-211	<sup>5</sup> 330
Remittances.....	708	889	1,326	1,469	1,639	789	850	-----
Tourism.....	392	463	638	714	748	250	498	-----
Changes in holdings of convertible foreign exchange.....	47	543	647	-342	-210	-----	-----	-----
Increase in long-term capital indebtedness.....	583	489	614	496	823	-----	-----	-----

<sup>1</sup> 1971-75 growth rates calculated from data in Table 106-9, "Statisticki Godisnjak, 1976."

<sup>2</sup> Figures calculated from data contained in various issues of "Indeksi"; 1976 is a January-June estimate of growth over same period of previous year.

<sup>3</sup> Figures calculated from data contained in various issues of "Indeksi"; 1976 is a January-September estimate of growth over same period of previous year.

<sup>4</sup> IMF, "Balance of Payments Yearbook."

<sup>5</sup> Estimate, January-September 1976, cited by B. Sefer in an interview with "Borba," Oct. 27, 1976, p. 9.

In October 1974, the dinar was devalued in an attempt to moderate the trade deficit. In addition, as was noted earlier, more restrictive import controls were introduced. In response to these policy measures, the trade deficit declined somewhat between the second half of 1974 and the first half of 1975, but its absolute magnitude remained intolerable. Moreover, the current account balance failed to improve sufficiently, because of slowdowns in the growth of earnings from remittances and from foreign tourism caused by the recession in Western Europe. Therefore, reserve losses continued and Yugo-

<sup>27</sup> In fact, to the extent that it was necessary, the Yugoslavs made special efforts to counteract the contractionary effects on the money supply induced by the loss of foreign exchange reserves. They also tried to offset the depressing effects of the real income loss occasioned by the deterioration in the terms of trade. For more detail on these policy efforts see the paper by E. Neuberger and L. Tyson, *op. cit.*

<sup>28</sup> After 1971, enterprise wage decisions were guided by annual incomes policies, which took the form of intra-republican and inter-republican agreements that constrained the distribution of enterprise income between personal incomes and enterprise savings. These agreements were not designed primarily to control the absolute wage level or its rate of growth but to set acceptable limits to inter-enterprise wage differentials. Incomes policies of this variety probably reduced aggregate wage inflation somewhat, but they were certainly not strong enough to control the 1974 inflationary pressure.

slavia's net long-term indebtedness to the rest of the world climbed sharply. Over the 1974-75 period, the total loss in reserves mounted to \$552 million, and the total increase in long-term indebtedness to \$1,319 million. In light of these developments, the Yugoslav leaders reluctantly adopted contractionary aggregate demand policies in the second half of 1975 to cut import demand and to reduce the trade deficit. As the data in table XXVI reveal, the attempt was successful but only at the expense of a marked slowdown in real growth rates. Ultimately, then, the worldwide inflation of fuel and raw material prices, the stagnation in Western Europe, and the adverse shift in the terms of trade forced the Yugoslav leaders to sacrifice their expansionary output and employment goals, at least temporarily.

### 5. *Concluding Comments*

The Yugoslav experience during the 1973-75 period clearly attests to the trade-offs between price stability, employment and output growth, and external balance, which exist in a market system with wage and price rigidities. In such a system, import induced price increases generate overall inflationary pressure as long as the government fails to adopt offsetting contractionary aggregate demand policies. Since wage and price rigidity is at the root of the conflict between inflation and output growth, an incomes policy suggests itself as a useful addition to government policy instruments. An effective incomes policy in 1974 would have undoubtedly reduced the inflationary impact of the import price increases at given levels of output and employment. This is not to say, however, that such a policy could have eliminated these effects completely. Given the magnitude of the import price rises in 1974, and the primary nature of the particular commodities involved, there was no way for the Yugoslavs to offset completely the import induced inflation. The use of either an incomes policy or a contractionary fiscal and monetary policy sufficient to accomplish this task would have required a politically unacceptable contraction in employment, output, and real incomes.

## IV. COMPARISONS AND CONCLUSIONS

### 1. *Systemic Differences*

#### 1A. SYSTEMIC DIFFERENCES IN THE FOUR PROCESSES OF IMPACT MODEL

The first major difference between Yugoslavia and Poland is that the former does not try to insulate its domestic prices from world market prices during the transmission stage. Although both countries are committed to improving the rationality of their price systems, primarily by allowing domestic price relationships to correspond more closely to those on world markets, the Yugoslav commitment has been long lived and implemented to a large extent.

In Poland under the "new financial and economic system" the world prices were allowed to have a direct effect on the financial results of economic organizations and, therefore, on their decisions, through the newly established "transaction prices" (the prices actually received or paid in foreign trade multiplied by coefficients of currency exchange differentiated according to the main trading regions). The

world inflation created a powerful and entirely unexpected impact on the financial results of some economic organizations. The leaders reacted by withdrawing some essential features of the newly established parametric system of planning in order to insulate the economy from these external disturbances.

Ironically, the 1973-75 world shift in relative prices in favor of fuels, materials and food on world markets corresponded exactly to the type of shift that the leaders of both countries contemplated in order to make their price systems more rational. Thus, if the Polish leaders had followed the Yugoslavs in merely permitting world relative price trends to guide domestic relative prices by allowing the transmission mechanism to function, then their goal would have been accomplished. However, there existed a very serious conflict between this goal and twin desires to insulate the domestic economy from external shocks and to avoid political repercussions from raising prices of basic food and other commodities which had been kept at artificially low levels to enhance the real purchasing power of the population.

In Yugoslavia, as discussed above, the price control system acts as a direct link between changes in world prices and domestic prices. In Poland this link is severed by the price equalization system.

To the extent that the changes in world prices are not completely insulated at the transmission stage in Poland, the resulting impact on domestic producer (wholesale) prices of tradeables will have further potential impact during the propagation stage. The existence of price and wage controls, and the operation of the whole planning mechanism that causes irrational prices to have less significance than they do in a market system, act to impede the speed and magnitude of changes in domestic retail prices and wages.

By contrast, in Yugoslavia neither the existing price controls nor the incomes policies were able to prevent the propagation of externally induced inflation, given that the Government was unwilling to bear the employment and output sacrifices of cutting aggregate demand. Thus, the propagation process, as well as the transmission process, was much more effective in Yugoslavia than in Poland.

Moreover, the unwillingness of Yugoslav leaders to alter significantly either the economic system or the short term growth policy, precluded the possibility of adopting any truly effective containment measures.

In Poland the containment mechanism involved (1) a marked increase in the use of price equalization measures, particularly subsidies which expanded rapidly; (2) some upward adjustment of the prices of centrally allocated producers goods as from January 1, 1975; (3) relatively limited increases in retail prices (some hidden in the form of "prices for new products", others open—here the leaders were prepared to go even further by attempting to increase the prices of foodstuffs, which had been frozen since the December 1970 workers' riots, but were forced to leave these prices unchanged because of an open opposition by the population), and (4) a partial withdrawal of systemic changes. The first two insulation layers were, therefore, considerably strengthened. On the other hand, there was no attempt to utilize the third layer. Wages and other incomes (incomes of agricultural population, pensions and welfare payments) were allowed to increase well above the planned increases. This can be explained by relative insecurity of the leadership which had come to power as

the result of riots over price increases and because higher wages and other incomes were an essential part of the new development strategy.<sup>29</sup>

It is essential to bear in mind that despite the differences in the transmission, propagation and containment processes, and the much greater tendency by some countries to insulate the domestic economy from external disturbances, no country is left unaffected by important changes in the world economy. For example, both countries faced a slowdown in Western demand for their exports due to the oil induced recession in the West. In addition, Yugoslavia was forced to absorb a real income loss due to the deterioration in the terms of trade.

Poland, because of her position as an important exporter of coal, suffered only a minor deterioration in the terms of trade in 1973 and 1974.

Systemic differences influenced the manner in which this real income loss manifested itself and in its distribution among different population groups. In Yugoslavia, the distribution of the loss was largely determined by the uneven impact of open inflation. In Poland, there was no dramatic terms of trade loss, so the leaders were faced primarily with the problem of how to deal with the deterioration in the balance of trade.

#### 1B. ROLE OF EXCHANGE RATE IN THE TRANSMISSION PROCESS

Since the transmission process consists of the link between foreign prices and domestic (wholesale) producer prices of tradeables, it is clear that it must be mediated by the exchange rate between domestic and world currencies. The nature of the transmission process thus depends in part on the exchange rate system. In Yugoslavia, the official unitary exchange rate is in fact the rate that is relevant for the transmission process. On the other hand, in Poland, the official rate is not relevant, and it is the multiple, implicit (shadow) rates that operate in translating foreign prices into domestic prices. There exist separate rates for trade with the West and trade with CMEA, and these rates depart significantly from the official rates. In addition, there exist various coefficients for specific commodity groups, making the exchange rate truly multiple.

#### 1C. OPEN VERSUS HIDDEN INFLATION

In dealing with the existence of inflationary pressures in the case of Poland, we must first discuss the problem of hidden inflation.

Open inflation may be observed in an increased general price level as measured by consumer price indices, GNP deflators, or other similar indices. Hidden inflation is much more difficult to discover, measure, or even define. We may differentiate among these different manifestations of hidden inflation, all of which occur to varying degrees in East European countries: repressed inflation, pseudo-product differentiation, and forced substitution. Repressed inflation exists when price controls and/or subsidies and taxes are used to prevent prices from changing despite pressures for price changes. In this case, shortages or undesirable resource reallocations are the price paid for price stability. Pseudo-product differentiation exists when firms introduce

<sup>29</sup> See Fallenbuehl, "The Polish Economy in the 1970's" in this volume.

new products which differ from existing products only in superficial ways, but are sold at substantially higher prices. This is really equivalent to open price inflation as far as the impact on consumers is concerned, but it does not show up in the price statistics since prices of old products have not changed, and it is therefore hidden. Forced substitution is a variant of pseudo-product differentiation, where no new products are introduced, but all of the lower price products in any given line are taken out of production or are no longer imported, and the consumers are forced to buy the higher price products whether they prefer them or not. In this case, the higher price products may actually be of better quality and provide greater utility, but the fact that the consumers did not shift their purchases to these higher price products before shows that the increased utility was not sufficient to compensate for the higher price. Thus, all three of these categories of hidden inflation lead to effects similar to those of open price increases. In view of this, one could define inflation, or rather the existence of inflationary pressures, in a very general way, to cover all these various types of effects that take place under different economic systems. We may consider inflationary pressures to be present whenever there exists a set of conditions that result either in actual increases in the general price level (open inflation) or that lead to significant resource reallocations or redistributions of goods if changes in general price levels are prevented from taking place (hidden inflation).

## *2. Discussion of Policies and Outcomes*

### 2A. INFLATIONARY PRESSURES

All East European countries experienced significant externally generated inflationary pressures in 1973-75. In addition, in the case of Yugoslavia and Poland there were significant internally generated inflationary pressures prior to 1973 (see respective country studies). There exists no strong consensus among Yugoslav economists and government leaders or foreign students of Yugoslavia on the relative importance of the different factors contributing to domestic inflation. The two major domestic factors thought to contribute to Yugoslav inflation were excess demand fueled by expansionary monetary policy, and wage push pressures. These two domestic factors interacted with the externally generated inflationary pressures to bring about a rise in industrial producer prices of about 30 percent in 1974.

There seems to be a consensus among Polish economists that the domestically generated inflationary pressure was much stronger than the impact of world inflation. This internal pressure was associated with the new development strategy which envisaged increases in both investment, in order to modernize and restructure the economy, and consumption, in order to secure meaningful material incentives, with the help of foreign borrowing of capital. Both, investment and consumption, increased however much more rapidly than had been planned. Although foreign borrowing also exceeded the originally expected level, it was still insufficient to eliminate the whole domestically generated inflationary pressure.

## 2B. IMPACT OF EXPANSIONARY POLICY AND TERMS OF TRADE SHIFTS

In the case of both Poland and Yugoslavia, the mid 1973 commodity price inflation hit the economy at an unfortunate time. It interfered with Gierek's development strategy and systemic changes outlined above and with Yugoslav efforts to stimulate the economy without incurring an unsustainable balance of payments deficit. Even in the absence of the dramatic world price changes, one would expect to observe an increase in the trade deficit of both countries since their growth strategy required increased imports of raw material and capital inputs, without a comparable rise in exports. As shown in Tables II and XX imports in real terms increased faster than exports in the expansionary phase that began in 1973 in Yugoslavia and 1971 in Poland. The rise in international prices amplified the burden of the existing trade deficit. In the case of Poland where the terms of trade were relatively constant, even if exports and imports had been constant in real terms, higher import and export prices would have resulted in a larger absolute deficit. As it was, the combination of a more rapid growth of imports than exports, and a rise in the prices of both resulted in much larger deficits. As shown in Table II, the trade deficit as a percent of exports rose sharply from 8 percent in 1972 to 22 percent in 1973.

In the Yugoslav case, the situation was aggravated by the unfavourable change in the terms of trade in 1974. The superimposition of the terms of trade shift on top of an existing trade imbalance caused the trade deficit to more than double in a single year.

The significant difference in the terms of trade experience of Poland, on the one hand, and Yugoslavia on the other, is largely explained by the fact that Poland was a net fuel exporter while Yugoslavia was a net fuel importer and had no major primary commodity export to serve the function of Polish coal. Yugoslavia was hurt by the fact that a very large share of its exports fell in the machinery and processed goods categories (usually well over half of Yugoslav exports), and the prices of these goods did not rise as fast as the prices of fuels and materials.

The deteriorating trade balance in both countries required immediate compensating movements in foreign indebtedness and foreign exchange reserves. In Yugoslavia, the 1974 deficit on current account was largely covered by drawing down of foreign exchange reserves and an increase in short term borrowings from abroad. In 1975 foreign exchange losses continued but the Yugoslavs were able to substitute long term borrowing for short term loans. Over the 1974-75 period, the total loss in reserves amounted to \$542 million. Moreover, by mid-1975 Yugoslavs switched to a restrictive domestic policy that led to a slightly smaller trade deficit in 1975.

As indicated in the Polish case study, Poland does not publish balance of payments statistics. Part of the deficit was covered by the invisibles, but Polish hard currency indebtedness rose from \$4.4 billion at the end of 1974 to \$7.1 billion at the end of 1975. A further response was the decision to moderate the rate of investment and to push exports in an attempt to achieve a positive trade balance by 1980.

## 2C. INVISIBLES ACCOUNT

One difference between Yugoslavia and Poland lies in the ability of Yugoslavia to compensate for extremely large trade deficits by earnings from invisibles, mainly tourism and worker remittances. The earnings from these two items amounted to about 63 percent of earnings from the export of merchandise during the 1971-75 period.

In the case of Poland, the major invisibles are railways transit operations, the merchant marine, and gifts from abroad. However, no data are available on the significance of these as earners of foreign exchange.

## 2D. GEOGRAPHICAL REORIENTATION

A possible way of coping with increased prices on world markets is to shift trade toward the CMEA market where prices are based on the average of prices in past years (thus, lagging behind world prices when these increase sharply). This mechanism is feasible for members of CMEA like Poland but not for Yugoslavia since it does not trade at intra-CMEA prices. In the case of Yugoslavia, trade with the centrally planned economies (primarily with members of CMEA) increased sharply from 1973 to 1974. In current prices, Yugoslav imports from this area rose sharply by 57 percent from \$1,117 million in 1973 to \$1,755 million in 1974. However, because total Yugoslav imports rose more rapidly, the share of CMEA imports in the total declined slightly. In the case of exports, a definite reorientation towards CMEA markets is suggested. Yugoslav exports to CPEs rose by 63 percent from \$970 million in 1973 to \$1,581 in 1974, and changed from 34 percent of total exports to over 40 percent. The conclusion one might draw from this is that the impact of the world inflation on geographical distribution was not as significant (since CPE share in imports did not change), as was the impact of stagnation in the West (which was the probable cause of Yugoslav efforts to increase their exports to the East when markets in the West could not absorb their goods).

In the case of Poland, the picture is rather complex since the evaluation of the geographic shifts depends on the choice of current or constant prices. As indicated in the case study, the share of Polish exports to socialist countries increased when evaluated in constant prices and decreased in terms of current prices. On the other hand, the share of imports from the West rose even when measured in constant prices. Thus, Polish containment of externally generated inflationary pressures did not include a shift in imports from the West to CMEA.

## 3. Conclusion

As argued in a previous paper,<sup>30</sup> international inflation may be expected to have three important potential effects:

- (1) a tendency to reverse the liberalizing and decentralizing economic reform measures by moving toward greater degrees of centralization and greater use of administrative measures in the attempt to contain the impact,

<sup>30</sup> Brown, Fallenbuchl, Licari, Neuberger, *op. cit.*

(2) a tendency to reduce the participation in the international division of labor and to try to return toward a policy of import substitution, and

(3) a tendency toward a shift in trading patterns away from the West and toward CMEA where prices have been held more stable by a pricing policy which sets CMEA prices as equal to the average of several past years' prices in world markets, thereby introducing significant lags into price increases (CMEA markets act as absorbers of price inflation).

In the case of Yugoslavia, the reaction to the 1973-75 world commodity inflation did not manifest the three postulated tendencies, with the exception of a small and probably temporary shift of exports toward CMEA. In the longer run, it seems reasonable to conclude that Yugoslavia will not abandon its decentralized economic system in response to external disturbances and will continue to maintain its trade relations with the West at their current high levels. The major new element in the future appears to be a shift in policy emphasis from export propulsion to import substitution.

In Poland the Plan for 1976-80 envisages a reduction in the import of steel and iron to 40 percent of the 1975 level as the result of the construction of the new gigantic steel mill "Katowice"; a change from a deficit to a surplus in grain trade; and an increase in the domestic content of the investment requirements for goods from 66 percent in 1975 to 74 percent in 1980.<sup>31</sup> This is clearly an increase in import substitution which can, at least partly, be attributed to the impact of world inflation.

As indicated above, there was a significant systemic impact of external disturbances but no major return to the orthodox centrally planned system. The postulated shift in geographic patterns certainly did not occur in the case of imports where it would be expected. The rise in the share of exports to CMEA, when measured in constant prices, was due to the stagnation in the West, rather than inflation.

<sup>31</sup> T. Wrzaszczyk, "Kierunki dalszego rozwoju gospodarki" (The Directions of the Further Development of the Economy), *Nowe drogi*, No. 1, 1977, pp. 9 and 11.

# ECONOMIC REFORM IN EASTERN EUROPE

BY MORRIS BORNSTEIN\*

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This essay analyzes the origin, nature, and outcome of economic reform in the last decade in the planned economies of Eastern Europe. This group includes Albania, Bulgaria, Czechoslovakia, the German Democratic Republic (GDR), Hungary, Poland, and Romania. The study does not deal directly with reforms in the U.S.S.R. or Yugoslavia. The U.S.S.R., although a centrally planned economy, is outside the geographical scope set for this volume. Yugoslavia has a very different economic system combining market socialism, workers' self-management of enterprises, and private agriculture. However, the

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U.S.S.R. and Yugoslavia are considered indirectly, in regard to their influence on reforms in the countries mentioned.

Because its focus is on the process of systemic change, the essay discusses major reform issues, forces, and measures common to most of the seven nations. It does not examine each country's experience separately, although important similarities and differences among countries are noted. Detailed accounts of reforms in particular nations may be found in the country papers in this volume and in earlier studies.<sup>1</sup>

Part I of the essay explains the pressures for, and the opposition to, changes in the economic system. Part II examines fundamental issues in designing reforms, and contrasts the main approaches adopted. Part III analyzes the subsequent retreat from economic reform. Part IV presents some general conclusions.

## I. THE REFORM MOVEMENT

The economic reform movement was an effort to change the traditional "command economy" model of comprehensive central planning and administrative control established in the U.S.S.R. in the 1930's and introduced into Eastern Europe after World War II. The reform movement can therefore best be understood by considering the nature and results of this traditional model, the pressures for change, and the sources of resistance to change.<sup>2</sup>

### A. *The Traditional Soviet Model*

The chief features of the traditional model include the following: (1) All significant means of production outside agriculture were nationalized. (2) In agriculture, the dominant pattern was collectivization, involving nominally cooperative ownership under close state control. (However, the collectivization drive was abandoned in Poland in 1956.)

(3) In the hierarchical system of economic organization, decision making was concentrated near the top. The different levels bargained about production assignments and the allocation of resources to meet them. Inter-enterprise relationships were determined "vertically" through the respective administrative hierarchies, rather than "horizontally" through the market. (4) Production and its disposition were planned in detail in physical units (as well as value terms). (5) To enforce these ambitious plans, the means of production were rationed—materials by administrative orders; labor by controls over the size (and sometimes the distribution) of wage expenditures; and capital by allocation of investment funds, construction materials, and machinery and equipment.

In turn, (6) prices were set administratively at high levels in the hierarchy and infrequently changed. Industrial wholesale prices were fixed on a cost-plus basis, with the aim of enabling most branches of industry to earn revenues sufficient to cover current (but not also capital) expenditures and show a small profit. Retail prices, often

<sup>1</sup> For example, see Feiwel 77 on Bulgaria, Keren 73 on the GDR, Friss 69 and Gadó 72 on Hungary, Zielinski 73 on Poland, Spigler 73 on Romania, and country chapters in Borzstein 73 and Höhmann 75.

<sup>2</sup> Bornstein 73, pp. 2-8.

including a large element of excise taxes, were supposedly set near market-clearing levels, but they were frequently too low, as shown by persistent shortages. Agricultural procurement prices were low relative to retail prices for the same commodities and to prices for industrial inputs into agriculture, and various controls were needed to enforce procurement quotas. (7) Money was "passive" at least in the production sector: the flow of funds was adjusted by taxes, subsidies, and credit to implement the allocation of resources and goods previously made in physical terms. (8) Managerial and worker incentives stressed the fulfillment and overfulfillment of quantitative production targets.

Finally, (9) unrealistic exchange rates and a complex structure of taxes and subsidies separated domestic from foreign prices. Foreign trade was conducted by special export-import firms. Producing enterprises had no direct contacts with foreign customers or suppliers, and their interest in foreign trade was weak.

This model was originally applied in the U.S.S.R. in the 1930's to achieve rapid industrialization and military power in a large but relatively backward country with considerable supplies of unskilled labor and extensive natural resources. The aim was to secure rapid growth and drastic structural change, despite the economic and social costs, through the comprehensive mobilization of labor and capital under centralized administrative direction. However, it was much less relevant to the circumstances of the much smaller East European countries in the late 1940's—and even to those of the U.S.S.R. itself by the 1950's.

At the end of World War II, Czechoslovakia and the GDR were already industrialized by European standards. They had little surplus agricultural labor which could be shifted to industry, and their populations were accustomed to central European, not Soviet, living standards. Poland and Hungary were less industrialized, but still more advanced than the Balkan countries, which did have large underutilized agricultural labor forces. More important, all of these countries are much smaller than the U.S.S.R. and lack both its varied resource endowment and its potential internal market for large-scale production. Therefore, they are inherently much more dependent on foreign trade. Hence, the Soviet pattern of rapid development of heavy industry (for which some of the East European countries lack even the basic natural resources), at the expense of international specialization based on comparative advantage, did not fit the circumstances and needs of the East European countries.

The harmful consequences of the imposition of the traditional Soviet model became evident relatively soon and sharply in the more developed countries of the area, such as the GDR, Czechoslovakia, Poland, and Hungary, although later and less acutely in the less advanced countries like Romania and Bulgaria. Overcentralization of decision making, excessively detailed planning and rigid materials allocation procedures, the suppression of local initiative, unsound price structures, and overambitious targets led to visible waste and inefficiency. Shortages of both producer and consumer goods were chronic, while stocks of unwanted goods accumulated. Lacking adequate material inputs and incentives, the agricultural sector performed especially poorly. The low quality and technological lag of manufactured goods limited the possibilities for sale both within the Council

for Mutual Economic Assistance (CMEA) bloc and on the world market—making them “soft” goods in comparison with “hard” goods such as agricultural products, raw materials, and fuels.

Despite continuing high rates of investment, the accustomed high growth rates of national product and labor productivity began to decline by the late 1950's or early 1960's, depending upon the country. Throughout the area, capital productivity was falling as a result of investment programs which stressed the highly capital-intensive branches, devoted a large share to structures rather than machinery and equipment, failed to apply up-to-date technology, and dispersed investment over many projects, leading to long delays before new capacity was completed and production from it began.<sup>3</sup>

### *B. Pressures for Reform*<sup>4</sup>

Thus, by the early 1960's, a growing number of economists had begun to perceive and to express the need for economic reform, as part of a shift from a more centralized economic system in the “extensive” phase of economic development to a less centralized system in the “intensive” phase. This formulation was politically convenient because it enabled them to argue the need for change without as such condemning the traditional system, with which the Communist party leadership was so intimately involved. Instead, it was claimed that different conditions called for a different system of economic planning and management.

In the “extensive” phase, they asserted, the chief aims of “economic construction” had been to alter the structure of the economy drastically and rapidly—to industrialize, to urbanize, to adjust to changes in territory resulting from World War II, to develop backward regions, and to reshape the content and geographical orientation of foreign economic relations. The methods chosen for these tasks were socialization of the means of production, a sharp increase in the rate of investment, rapid expansion of the industrial labor force, and revision of the pre-socialist income distribution.

In contrast, in the “intensive” phase, reform advocates observed, the emphasis of economic policy was no longer on rapid structural change, as much as on smaller, marginal changes in the composition of output, technology, etc. With a slowdown in the rate of growth of the labor force, capital deepening rather than capital widening became important. Greater efficiency in the use of limited inputs was essential. Finally, in the consumer sector, for many goods a shift had occurred from a sellers' to a buyers' market, as a result of the rise in living standards and the availability of stocks.

Thus, they concluded, the economic system should be modified to deal with the new conditions of the “intensive” phase. More decisions should be made at lower levels in the hierarchy, on technical-economic rather than political grounds. However, to be sound, such decentralized decisions must be guided by more rational prices and by more appropriate performance indicators. Product mix and product characteristics should respond more closely to customer demand—for consumer goods as well as producer goods, and especially for exports. The

<sup>3</sup> Seidenstecher 75, p. 321.

<sup>4</sup> This analysis deals with pressures for economic reform. For an appraisal of pressures for political and cultural reforms, see Kusin 76.

coercion and ideological appeals used to mobilize resources in the extensive phase should yield to more emphasis on incentives to promote the efficient production of the correct output. Finally, they advocated a new approach to foreign trade, recognizing its importance as a source of innovation in technology and products, as a means of competition to discipline highly-concentrated domestic producers, and as a way to obtain economies of scale beyond the capacity of the internal market.

Discussion of the need for reform and of specific reform proposals was aided by political "de-Stalinization" after 1956, which permitted freer discussion of new ideas in the economic sphere and the inflow of information from abroad.<sup>5</sup> The latter brought both greater awareness of economic growth and living standards in Western Europe, and greater understanding of the operation of regulated market economies, in contrast to the "anarchic" capitalist economies depicted in orthodox Marxian writings. Thus, what was previously considered an issue of principle—for example, central formulation of detailed enterprise production plans—became a matter of technique, to be evaluated on its merits. As a result, it was possible to propose "mixed" economic models in which the central authorities could continue to control the main lines of economic development (including income distribution and foreign trade) through macroeconomic planning and monetary-fiscal measures, while permitting more enterprise autonomy in micro-economic decisions in response to market forces.

### *C. Resistance to Reform*

The political leadership was slow to recognize both the need for change and the form it should take. In the first place, it was reluctant to believe that the economic system itself, rather than the incompetence of individual officials, was responsible. In some cases, shortcomings in the statistical system failed to disclose the facts and causes of declining economic performance promptly and accurately. Reform was also opposed on ideological and philosophical grounds: Reliance on the market was deemed inconceivable in a socialist economy, because "socialism" was held to involve not only collective ownership of the (principal) means of production but also central planning of investment, output, prices, and distribution. Capital and land charges, production for profit, and emphasis on material incentives were condemned as incompatible with socialism. The official ideology of the "solidary society" denied any conflict between group interests. In contrast, reform proposals recognized the separate interests of firms, workers, and consumers, and recommended the market as the mechanism for reconciling them.

Reforms were also opposed by policymakers on somewhat more pragmatic grounds. (1) Some feared that the proposed systemic changes would mean loss of central (Party) control over the main directions of economic development. Whereas central planning could assure the priority development of those sectors deemed most important to the national welfare, decentralized decisionmaking by autonomous enterprises in response to market forces could lead to the diversion of resources from investment, military programs, and civilian collective consumption to supplying goods and services for

<sup>5</sup> See Korbonski 75 for a thorough analysis of the political aspects of economic reforms.

personal household consumption. (2) Because centrally planned economies typically operate under conditions of repressed inflation and administrative allocation (rather than price rationing) of many goods, more influence for market forces could bring rapid open inflation (as in Yugoslavia). This would in turn affect the distribution of income and popular attitudes toward the regime. (3) At the same time, unemployment could occur or increase, as enterprises laid off excess workers in response to a shift from output maximization to profit maximization, to more autonomy in the use of wage funds, or to the curtailment of budget subsidies. Also (4), reducing the artificial separation between the domestic economy and foreign trade, by linking domestic and foreign prices through more realistic exchange rates, could lead to higher domestic prices for imports, on the one hand, and make less attractive the production of exports needed to fulfill CMEA agreements, on the other. In short, some opposition to reform was based on an assessment of the risk and uncertainty attached to both the benefits and the costs of reform, including the problems involved in the transition from the old system to a new one.

Various interest groups resisted reforms. The Party apparatus and the ministerial bureaucracy believed they would lose power as enterprises obtained more freedom to make decisions in response to market forces—in place of the traditional system of joint supervision of enterprises by higher administrative agencies and by parallel Party organizations. In turn, some managers who were successful under the traditional system were not enthusiastic about reforms which called for them to become independent, cost-conscious entrepreneurs selling products in a competitive buyers' market—i.e., to become “businessmen” instead of production engineers.

For their part, workers were concerned about the impact on their real incomes of changes in wages and prices associated with reform. New incentive schemes might increase the money incomes of managerial and technical personnel and more-skilled workers relative to less-skilled workers. Retail prices might be increased, because the “rationalization” of the price system might reduce or eliminate subsidies for some consumer goods and services. Also, the curtailment of unprofitable production and greater freedom for managers over the enterprise wage fund and labor force might lead to at least frictional and perhaps even structural unemployment, despite a national macroeconomic policy of full employment.

Finally, economic reforms were opposed on the ground that liberalization in the economic sphere might spread, threatening the paramount role of the Communist party in national life. Freer discussion of alternatives in the economic sphere might lead in turn to demands for open discussion of cultural, social, and even political issues. Economic reforms imply some diffusion of power, first to enterprise management, but subsequently to the population through reliance on the market for guidance on the composition of at least part of the national output. It was feared that professionals in other fields might also seek greater autonomy in their activities, and that the population might be tempted to express its views on matters (such as living standards, housing policy, the length of the workweek) hitherto reserved to top policymakers.

## II. REFORM DESIGN

In view of these conflicting pressures, the designers of reform proposals had to face and resolve several important issues, including the choice between systemic and policy changes, the nature of the "decentralization" of decisionmaking to be sought, and the strategy for implementing reforms.

### *A. Systemic Versus Policy Changes*

It is important to distinguish between changes in economic policy and changes in the economic system, since they may represent alternative paths to improving the performance of the economy.<sup>6</sup>

Economic policy involves, for example, decisions on the rates of growth of major components of national product, such as consumption, investment, and military programs; the distribution of investment by sectors and branches of the economy and also by regions of the country; the school-leaving age, the retirement age, and the length of the work week; the relationship of changes in money wages and in retail prices; and the composition and geographical direction of foreign trade.

Thus, for instance, economic performance could—without systemic changes—be improved by economic policy decisions which allocated the same (or perhaps even a smaller) amount of investment differently among industries, changed the mix between capital-intensive and labor-intensive technologies, or raised labor force participation rates by altering the entry or retirement ages.

In contrast, modification of the economic system entails a redistribution of decision-making authority regarding various questions among the participants (central planning agencies, ministries, enterprises, workers, households). Corresponding changes in the flow of information used in decision making are commonly required. Also, to get the new decisionmaking structure to strive for the goals of the system designers, changes in performance indicators and incentives are often necessary.<sup>7</sup>

Hence, systemic changes seek to improve the economy's performance by such measures as transferring from ministries to firms authority and responsibility for decisions on the composition of output, the use of labor inputs, or the nature of new investment (at least below a specified ceiling amount). In turn, to provide firms the information needed for sensible decisions on these questions, prices may be revised to reflect more closely the relative scarcities of inputs and outputs. Finally, the dominant criterion for evaluating enterprise performance may be changed from output or sales to profit, and managerial incentives in the form of bonuses and promotions accordingly related to profit.

However, while it is possible to distinguish analytically between policy and systemic changes, they are often linked in practice. First, altering important features of the economic system is in fact a major economic policy decision—about the appropriate mechanisms for determining the bill of goods, allocating resources and distributing

<sup>6</sup> Chawluk, 74, pp. 98-100.

<sup>7</sup> The elements of decision making, information, and motivation are discussed in detail in Koopmans 71 and Neuberger 76, chs. 4-6.

income, and perhaps even about property rights. Second, changes in the economic system may be regarded as the best means to accomplish some policy decisions. For instance, to implement a decision to expand exports of manufactured goods to Western market economies, it may be necessary both to give producing enterprises the right to conduct directly (rather than through intermediary foreign-trade enterprises) at least some aspects of export sales, and also to assign realistic domestic prices to exports for use in calculating sales revenue, profits, and managerial bonuses.

Nonetheless, the distinction between policy and systemic changes proved a useful one for economic reform advocates, because they could claim to address themselves to improving the systemic mechanism to implement policy, without challenging the Party's exclusive right to determine policy.

### *B. Concepts of "Decentralization"*

Several different conceptions of "decentralization" of decision making appeared in the debates over economic reform.

The "administrative decentralization" approach involved partial devolution of authority over selected decisions from higher to lower tiers within the administrative hierarchy—for instance, from the ministry to the intermediate "association" level or even to the actual producing enterprise. Its intent was to "rationalize" the existing scheme of administering the economy, by transferring to lower levels some of the more detailed decisions regarding the composition of output, on the one hand, and production methods, on the other. The lower levels could make more sensible and more timely decisions on these aspects—though subject to constraints in the form of centrally set global output assignments and input authorizations. This shift would also reduce the burden of decision making at higher levels, freeing them to concentrate on their non-delegable responsibilities regarding investment, location, living standards, foreign economic policy, etc.

In contrast, the "economic decentralization" approach envisioned a greater role for domestic and foreign market forces—and concomitantly a smaller voice for central planning and administrative control—in determining the composition of output, the allocation of resources, and even the distribution of income. Enterprise activities would be co-ordinated through direct "horizontal" market links, rather than a "vertical" administrative command chain. Supply and demand, operating through more flexible domestic prices, which in turn would be related to world market prices, would guide decisions on outputs and inputs. Profit—the "synthetic" indicator simultaneously encompassing all aspects of enterprise activity—could then become the appropriate measure of a firm's contribution to the economy, and the basis for rewarding its personnel.

In short, the "economic decentralization" approach contemplated a move toward a socialist regulated market economy. The state authorities would still control the "main directions and proportions" of the economy through macroeconomic policy decisions and instruments (taxes, subsidies, credit) to promote growth and maintain stability of the price level and employment. They would also provide collective consumption and intervene to deal with externalities. But

within this regulatory framework, “the market,” not “the plan,” would guide the microeconomic decisions of enterprises about what to produce and how to produce it.

These two concepts of “decentralization” concern what powers should be transferred to firms from central planning agencies and ministries. A third approach to decentralization involved devolution of authority *within* firms—through a shift from “one-man management” (according to the Soviet principle of *edinonachalie*) by a state-appointed manager to genuine “mass participation” in decision making by workers along the lines of the Yugoslav model. Some reform advocates regarded self-management as the logical completion of the process of decentralization.

### C. Implementation Strategy

Should reform measures—once selected—be introduced in phases, or all together? In selected units on an experimental basis, or across the entire economy? Subject to continuous adjustment, or with a promise of stability? Each of these issues will be discussed briefly.

#### 1. PHASED VERSUS SIMULTANEOUS INTRODUCTION

Should different reform measures—for example, concerning performance indicators, authority regarding the output mix, foreign trade rights, and so forth—all be implemented at the same time, or should they be introduced separately in a particular sequence over several years?

Supporters of the phased approach pointed out that some reforms, such as a change from gross output to sales as an enterprise performance indicator, could be adopted immediately, while other measures, particularly price reforms, would take a long time (years rather than months) to prepare. Also, a phased approach was claimed to be less disruptive, permitting enterprises to adjust to one new responsibility before undertaking another.

In contrast, opponents of the phased approach argued that meaningful and successful reform required the simultaneous introduction of an integrated package of mutually supporting measures affecting planning methods, performance indicators, incentives, and prices. Otherwise, a change in only one or some of these aspects of the economic system could yield little improvement and could even prove counterproductive. For instance, if firms gained more power to determine the composition of output without facing new prices more nearly reflecting scarcities, decentralized decision making by individual enterprises might well produce an even less suitable assortment than that generated by the admittedly imperfect decisions of central planning agencies—which at least had a broad economy-wide perspective that partially compensated for the deficiencies of misleading prices.

#### 2. EXPERIMENTATION VERSUS COMMITMENT

Should reform measures—whether phased or simultaneous—be “tested” by applying them for a trial period only to a selected group of enterprises, or should they be adopted uniformly across the economy (perhaps with the exception of cooperative agriculture)?

The first school held that it was logical and "scientific" to determine the feasibility of reform measures by trying them first in a "pilot" group of ministries and enterprises. In the light of the results obtained, the Party could then decide whether to modify some of the reform measures and whether to extend them to other units and eventually the entire economy.

Critics questioned what could be learned from such experiments. First, they would yield atypically favorable results if—as usually contemplated—the "pilot" group comprised not a representative sample of enterprises but rather a set of the most efficient enterprises, enjoying modern equipment, the best management, and priority in the allocation of materials and machinery. Second, how could any selected "pilot" group of firms truly operate on the new system if the rest of the economy—including their suppliers and customers, and the prices of inputs and outputs—were not also "reformed"?<sup>8</sup> Finally, how long should an experiment run? Presumably, it should be long enough to show convincingly the results of the new arrangements. But scheduling experiments of several years' duration could easily constitute a delaying tactic intended to postpone further implementation of the reform package.

### 3. ADJUSTMENTS VERSUS STABILITY

Should reform measures be continuously evaluated and modified as soon and as often as experience showed any changes to be necessary? This approach has the advantage of flexibility—conceding the possibility of error, and making corrections promptly as required.

Or should reform measures be "stable", so economic agents can have time to learn how to perform their new roles and to accept them? Frequent changes in "ground rules" can weaken confidence in, and commitment to, reforms. For example, this would occur if enterprise managers found that, after they had "mobilized internal reserves" in order to increase profits, the central authorities raised profits taxes, preventing managers from using the additional funds for bonuses as they had expected.

#### *D. Reform Models*

This essay does not present a detailed comparison of the original reform "blueprints" of the individual countries in regard to each of the various possible measures. First, such comparisons are available in several earlier studies.<sup>9</sup> Second, and more important, these blueprints soon became outdated, as many important features were not implemented fully or at all.

Instead, in the light of the issues identified in the preceding sections, we may briefly characterize the various national reform blueprints by grouping them into two broad categories: "partial" or "minor" vs. "comprehensive" or "major" reforms. This classification is analytically useful and appropriate for the purpose of this essay, but it unavoidably disregards some interesting, and in some respects

<sup>8</sup> The point is neatly illustrated by a popular Hungarian example about a hypothetical proposed reform of the traffic system in Great Britain from driving on the left to driving on the right. In this case, the "experimentalists" advocate testing the merits of the new system by at first switching to the right only buses, while all other vehicles continue on the left.

<sup>9</sup> For example, Kaser 70; Bornstein 71, pp. 262-63; and Pryor 73, ch. VII.

substantial, differences among nations in each group—as can be appreciated by consulting the country studies in this volume.

As in the U.S.S.R., a “partial” reform approach was chosen by Albania, Bulgaria, the GDR, Poland, and Romania. It stressed “administrative” decentralization, though in many respects only to an intermediate “association” level between the ministry and the enterprise. It included phased introduction of reform measures, selective experiments, and an inclination toward early revision. The detail of enterprise plan targets was reduced, managers gained more control over the use of the wage fund, and some decentralized investment by firms was promised. Sales and profit became more important performance indicators, with bonuses linked to them. Selected producing units received the right to engage directly in foreign trade, within their global plan assignments. Producer (wholesale) prices were revised to reflect costs more closely, but were not expected to balance supply and demand—a task still assigned to administrative allocation, though now to be performed in some cases at a lower hierarchical levels.

In contrast, the more “comprehensive” reform blueprints in Czechoslovakia and Hungary accepted a considerable degree of “economic” decentralization, and the Czech (but not the Hungarian) reform also called for workers’ self-management of enterprises. The various reform measures were to be introduced simultaneously in Hungary (though phased in Czechoslovakia), and applied to all firms. “Parameters” (or “regulators”) such as taxes and subsidies were to be left unchanged for at least several years, to provide a stable environment for enterprise decisions on production and investment. Reform included abolition of obligatory targets for enterprises, distribution of supplies by the market mechanism, designation of profit alone as the key performance indicator, and direct participation by firms in foreign trade. In turn, to provide appropriate signals to guide enterprises’ exercise of their new rights, reform of the price system involved not only closer correspondence of prices with costs but also an effort to make prices more flexible and more reflective of scarcity, through progressive decontrol of centrally fixed prices.

### III. RETREAT FROM REFORM

Despite the long period (usually two–four years) devoted to working out national economic reform blueprints, none of them was fully implemented. In some cases, key changes were never put into effect. In others, reform measures were introduced but then formally revoked, wholly or partly. Finally, some aspects of reforms survived in name only, as they were subsequently effectively abridged by offsetting recentralizing actions.

The first section below examines experience in implementing the chief reform measures. The second section then analyzes the major factors responsible for the retreat from economic reform.

#### *A. Implementation Experience*

Although the countries in the area differed in the way and extent to which reform blueprints were implemented, some common patterns can be identified in regard to the principal reform measures. These include (1) administrative reorganization, (2) output plan assign-

ments, (3) allocation of supplies of material inputs, (4) use of labor, (5) investment, (6) price formation, (7) performance indicators, (8) incentives, (9) foreign trade, (10) workers' participation in decision making, (11) agriculture, and (12) the scope of the private enterprise sector. Experience regarding each aspect will be discussed briefly.

#### 1. ADMINISTRATIVE REORGANIZATION

National reform blueprints based on "administrative" decentralization were reluctant to devolve much authority down to the enterprise and thus the market. Instead, they chose a compromise solution under which certain powers were to be transferred from the ministry, not to the enterprise, but only to an intermediate hierarchical level. The "main administrations" within ministries were renamed "associations" and changed from purely administrative organs, financed by budget grants, to "business organizations" on "economic accountability" status. This status, following the Soviet concept of *khozraschet*, involves separate financial accounts, meeting expenses from sales revenue, partial financing from repayable bank credits, and profit as a performance indicator and basis for bonuses. The association was thus a hybrid: a combined administrative unit and business entity—receiving targets for outputs, inputs, and investment from the ministry, and distributing disaggregated plan assignments to its component enterprises, in pursuit of sales and profit.

Thus, in the GDR the VVB were formed in 1958 from the main administrations, and in 1964 were put on economic accountability status, with performance indicators and incentives similar to those of enterprises. In 1968, some enterprises were further integrated vertically into "combines." In Bulgaria, the association was made the basic business unit: all plan targets, input allocations, budget grants, and credits were channeled to it, and it was responsible for plan fulfillment by its subordinate enterprises. In Poland, the consolidation movement went farther with the creation in 1973 of "big economic organizations" (WOG) combining large multiplant enterprises, vertical complexes, and associations.

(There was no similar reorganization in Hungary, where industry was already highly concentrated after a reorganization in 1963 which preceded economic reform. About 800 state industrial enterprises—half with over 5,000 workers each—produce over 90 percent of total industrial output. This concentration permits ministries to exercise effective control over enterprises directly, without an intermediate association level.)

However, even the promised limited devolution of authority from the ministry to the association was not realized in practice, as the experience of the Romanian "centrals" vividly illustrates.<sup>10</sup> After a short and small experiment with 10 of these associations, a total of 200 were established in 1969, involving both horizontal and vertical integration. In some cases the central was set up as a single large enterprise combining a number of previously independent firms whose identity was lost. In other cases the latter remained as distinct divisions of the central. Finally, in some instances both the central and the component enterprises had separate economic accountability

<sup>10</sup> Spigler 73, chs. 3-4, and Granick 75, ch. 4.

status and individual managements. Within the framework of plan assignments from the ministry, the new centrals were supposed to draw up plans for their member plants; allocate materials and investment funds; sell the output, with the right to direct contacts in foreign trade; and redistribute profits among component units. It soon became clear that ministries would not permit centrals to exercise these rights. From the outset ministries intervened in the day-to-day operations of the centrals and in their instructions to member enterprises, which had to report (formally and informally) to the ministries. The only real autonomy of the centrals proved to be in scheduling production among their plants. In 1972, most of the rights of the centrals were formally rescinded, and in 1974 their number was reduced to 102, to facilitate close control by the ministries.

## 2. OUTPUT PLANS

The "comprehensive" approach of Hungary (and Czechoslovakia) abolished centrally set output targets for enterprises. They were instead to determine the level and composition of their output for themselves, in pursuit of profit and in the light of customers' demands, prices, and costs.

In the "partial" reforms of other countries, ministries continued to set global output targets for producers. But in most cases, the concept of output was changed from gross value of output to actual sales of finished products to customers. In addition, the "partial" reforms usually called for less ministerial specification of the "assortment" or product-mix within the assigned global total.

However, the actual increase in enterprise autonomy was much less than promised. First, as explained in the preceding subsection, in many cases the association still worked out detailed output plans for enterprises. Second, central planning agencies and ministries assigned associations and enterprises binding targets for various high-priority consumer, producer, investment, or export goods which the higher levels knew the producing units would find it unprofitable to make and sell at the prevailing distorted, non-scarcity prices. Finally, producers received "informal," but irresistible, guidance in "direct discussions" between state officials and enterprise executives about the latter's responsibility "in the public interest" to produce specified quantities of designated goods despite the adverse effects on their sales revenue, profits, and bonus funds.<sup>11</sup>

## 3. DISTRIBUTION OF MATERIAL INPUTS

Allocation of raw, semifinished, and finished materials; fuels; and machinery and equipment and parts for them has traditionally been regarded as the fundamental "lever" of central control over the economy—determining what shall be produced, where, how, and for whom. Moreover, with producer goods prices based chiefly on cost and neglecting demand, administrative rationing logically supplants price rationing of scarce supplies. As a result, in centrally planned economies material inputs have long been distributed through a two-step process, involving (a) aggregate "balances" to equate total

<sup>11</sup> Cf. J. Fallenbuchl's article on Poland in this volume, and Tardos 75a and Bauer 76 on Hungarian experience.

sources and total uses for thousands of items, and (b) quantitative quotas for each consuming firm.

Yet in practice it has proved extremely difficult and burdensome for central agencies and ministries, remote from both suppliers and customers, to plan accurately the flows of thousands of items among thousands of firms—and to change these allocations promptly and correctly in response to new output assignments or to under- or over-fulfillments of plans.

Hence, the “administrative” decentralization approach to economic reform was sympathetic to proposals to preserve the principle of administrative, rather than price, allocation of materials, but to transfer to lower hierarchical levels the responsibility for many less important and/or more detailed commodity balances. However, although some reform blueprints accepted this idea, it was either not implemented or did not survive long, as the experience of Romania and the GDR, respectively, illustrate.

In Romania, the reform directives provided for a reduction in central planning of supplies and the transfer, from ministries to associations and enterprises, of authority to distribute output. But these decentralizing measures were never carried out. Instead, central control of supply was tightened, and a new ministerial-level agency was established to perform it.<sup>12</sup>

In contrast, in the GDR devolution actually occurred but was subsequently revoked. In 1973, the last year before the introduction of the “New Economic System” (NES), out of 5,192 commodity balances, 1,188 were prepared at the highest hierarchical level (by the State Planning Commission and the National Economic Council) and only 605 by associations and enterprises. In 1967, at the height of the NES, out of 6,045 balances, 138 were drawn up at the top and 5,728 by associations and enterprises. However, in response to supply problems arising from taut planning, beginning in 1972 recentralization occurred in two forms. First, formal authority for compiling many balances (the exact number is unclear) was shifted back up to ministries and the State Planning Commission. Second, the latter were given the responsibility to “confirm” balances initially prepared by lower levels.<sup>13</sup>

As part of “economic” decentralization in Hungary, for all but a very few products administrative allocation was to be eliminated and firms freed to distribute output on the basis of contracts negotiated between suppliers and customers in a market framework. Thus the National Board for Materials and Prices (NBMP) was to be concerned overwhelmingly with adjusting prices rather than allocating materials. But in practice much more central control over supply was exercised. At first, it was accomplished chiefly through informal “guidance” to enterprises by planning agencies and ministries expressing their concern about “equilibrium of the market.” Subsequently, central supervision was formalized by the creation of an Intersectoral Committee for Price Setting and Product Marketing, chaired by the head of the NBMP. The new agency is explicitly authorized to abridge enterprise autonomy by regulating output, inventories, and distribution of both domestic production and exports and imports.<sup>14</sup>

<sup>12</sup> Spigler 73, chs. 2-3.

<sup>13</sup> Keren 73, pp. 559-60 and 582-86.

<sup>14</sup> Csikós-Nagy 75.

## 4. LABOR AND WAGES

With minor exceptions,<sup>15</sup> East European economies do not allocate labor administratively but instead rely upon differential wages in a labor market to place workers (in the light of their training) in particular occupations, branches of industry, firms, and geographical locations. These labor markets are usually "tight" because ambitious development plans maintain a high level of aggregate demand and because enterprise managers respond to taut plans by trying to acquire "excess reserves" of labor. In these conditions, the central authorities are typically concerned about labor shortages; a tendency for actual earnings to rise faster than official wage scales are raised; and the possibility of wider differentiation of income, by occupation and employing firm, than is considered tolerable in an "egalitarian" socialist society. To deal with these problems, the authorities set wage rates and then attempt to control firms' use of labor by regulating the wage bill rather than the number and kind of workers as such.

In no country of the area did the economic reform blueprint call for decentralization of authority to fix wage rates. Rather, in order to carry out a comprehensive and consistent revision of wage schedules, the power to set wage rates was often further centralized by transferring it from branch ministries to an economy-wide commission. In most of the countries, these revisions had three aims: (a) changing work norms to increase the share of basic wages (and reduce the share of bonuses) in total earnings; (b) altering (usually narrowing but sometimes widening) wage differentials by occupation, skill, and industrial branch; and (c) a limited shift from piece rates to time rates.

In contrast, economic reform did bring some loosening of control over the enterprise's wage bill and use of labor.<sup>16</sup> Previously, the ministry usually specified both the total wage bill and the average wage—which, along with centrally set wage rates, severely constrained the enterprise's freedom to determine the total number of workers and their composition.

In the "partial" reforms, the ministry still planned the wage bill—but no longer also the average wage—of the association or the enterprise. In some countries, for instance the GDR, the wage bill was stated as an absolute sum, on the basis of planned output or sales. On the other hand, under the scheme introduced in Poland in 1973, the wage bill is not specified directly but is determined indirectly as a percentage of value added. For every percentage point of increase in value added over the previous year, the enterprise is entitled to increase its wage bill by a fraction (usually 0.6–0.7) of one percent. Thus, the ministry designates not the wage bill itself but rather (a) the performance indicator determining it, and (b) the "normative" connecting the two.

In contrast, in the more "comprehensive" Czech and Hungarian reforms, the central authorities were no longer to determine enterprise wage bills but were instead to try to control labor use by regulating only the average wage paid by the enterprise. Thus, in the light of the output program it chose, the enterprise was to decide

<sup>15</sup> For example, new university graduates in certain fields, such as medicine or primary education, whose initial placement is in rural areas.

<sup>16</sup> See Adam 76 for detailed comparisons of particular countries.

its labor inputs—subject to constraints in the form of (a) centrally set wage rates and (b) an enterprise income tax levied in relation to the increase in the average wage.

For example, the abortive Czech reform at first included a two-part stabilization tax. One part was aimed at regulating wages and provided that if average wages increased compared to the previous year, the enterprise was liable for a tax equal to 30 per cent of the additional wage payments. The second part sought to regulate employment, stipulating that if the number of employees rose, the enterprise owed in tax a sum equal to the wages paid to the new employees. However, this control of enterprise wage payments and employment through taxation was soon reinforced by a scheme of coefficients linking permitted increases in average wages to increases in labor productivity. Furthermore, these coefficients were differentiated by branches and even individual enterprises. Finally, in 1970 ministries returned to specifying enterprise wage bills on the basis of planned sales.

In Hungary, an increase in the average wage of the enterprise depended on the increase in gross income (wages plus profit) per employee. For every percentage point increase in gross income per employee, the average wage could be increased by 0.3 per cent, provided that the enterprise could pay a tax (out of its bonus fund) equal to 50 per cent of increased wage costs. These coefficients were uniform for all firms in Hungary, in contrast to the differentiation of coefficients by branches and enterprises in Czechoslovakia. However, the Hungarian authorities soon found that this average wage regulation scheme led to intra- and inter-enterprise wage differences which caused serious dissatisfaction among less skilled production workers. As a result, in 1974 a new wage schedule was adopted centrally for 108 “key trades,” to be applied across the economy. It was intended to narrow the range between lower and upper limits in the various occupations from the prevailing 60–80 per cent to about 30 per cent. And in 1976 the central authorities resumed the regulation of enterprise wage bills as well as average wage levels.

Thus, even in the most liberal reform, the enterprise does not have the freedom to hire the workers it considers necessary, and pay them what it believes they are worth, in the light of their contributions to sales and profit.

##### 5. INVESTMENT

Reformers advocated some decentralization of decision making regarding investment, as well as related changes in methods of financing it. They hoped thereby to increase the “effectiveness” of investment by altering its distribution among products and firms, and among types (buildings, equipment, inventories); by lowering building costs; by finishing investment projects faster and reducing the backlog of uncompleted investment in process; and by thus more quickly introducing into production “embodied” technological progress involving investment in new methods and products.<sup>17</sup>

Reform proposals called for devolving some authority for selecting, designing, and carrying out investment projects from central planning agencies and ministries to associations and enterprises. The higher

<sup>17</sup> On investment problems, see Seidenstecher 75.

levels in the administrative hierarchy would still retain responsibility for big, non-recurring projects of national significance, but now permit the actual producing units to decide investments involving replacement, expansion, and modernization.

These enterprise-determined investments would be financed from three sources: depreciation allowances, profits, and bank credit. Total depreciation allowances should be increased, by raising depreciation rates and by revaluing upward the capital stock to which the higher rates were applied. Of the total amount of depreciation allowances, enterprises would retain a larger share (and transfer to ministries a smaller share) than before. Next, reform blueprints typically included schemes for the distribution of profit among taxes, bonus funds, reserve funds, and funds destined for "productive" and "non-productive" (e.g., housing) investment by the firm. Finally, enterprises would borrow at interest from the banking system, not only for working capital as previously, but also for fixed investment in buildings and equipment.

Most countries in the area did not implement to any significant degree changes in either the locus of investment decision making or the methods of finance. The central authorities feared that enterprises' interest in investing—to expand output, sales, profits, and wage funds—would increase the existing strain on the capacity of construction firms and on supplies of building materials and productive equipment. In addition, they doubted whether the prevailing non-scarcity prices of outputs and material inputs would guide decentralized investment decisions in the correct directions.

Therefore, the retained profits available for decentralized investment were strictly limited, often by profits taxes differentiated by firm. Second, the amount and distribution of bank credit for enterprise investments were closely controlled by direct quantitative rationing, rather than by altering interest rates. Since most decentralized investments could not be financed entirely from retained profits but needed also bank loans (and even budget grants as well), the availability of the latter conditioned the use of the former. Finally, through their control of the material supply system, the central authorities prevented enterprises from translating the nominal purchasing power of funds from retained profits and depreciation allowances into actual command over construction services, materials, and equipment.

Hungary at first did permit firms to undertake decentralized investments from profits and bank credits, but the resulting spurt of enterprise spending on investment caused severe shortages of construction materials and serious inflationary pressure, and central control—particularly through the banking system—was soon reasserted. Thus, as Portes' contribution to this volume notes, Hungarian claims that enterprises decide two-thirds of total investment are misleading, since these "enterprise decisions" are in fact guided formally and informally by the central authorities.

## 6. PRICES

Reform blueprints included two rather different types of changes in the price system: (a) extensive revisions of centrally-set (nonagricultural) prices, though essentially within the traditional cost-plus

framework; and (b) partial decontrol of prices in an effort to increase price flexibility in response to market forces. The first approach was carried out, though sometimes with great delay, in all of the countries. The second was proposed in Hungary, Czechoslovakia, and Bulgaria but implemented (partially) only in Hungary.

The revisions of producer prices involved changes both in the coverage of cost and in the basis for the profit markup added to cost to obtain the price. Most countries revalued fixed assets, to get more realistic depreciation charges. With the exception of Romania, they also introduced some kind of capital charge—either as an element of cost or in the form of a special tax to be paid out of the profit markup above cost. However, the several countries differed in regard to (a) the size of the capital charge, (b) whether it was differentiated by branches and enterprises, (c) whether it was calculated on the depreciated or the undepreciated value of assets, and (d) whether it applied to inventories as well as fixed capital (and if to both, whether at the same rate). Finally, in Hungary (as in the U.S.S.R.) rental payments for some natural resources were adopted.

Preceding the reforms, there had been a long debate in most countries about whether the profit markup should be calculated as a percentage of (a) the wage fund, (b) production cost (as previously), or (c) capital. In addition to these "single-channel" methods, a compromise "two-channel" method related part of the profit markup to the wage fund and another part to capital. Following the Soviet example,<sup>18</sup> the East European countries chose the variant relating the profit markup to capital—a scheme sometimes called "prices of production" following the use of this term by Marx in *Capital*, Vol. III—although they did not establish a single, uniform rate of profit in relation to assets for every branch of industry.

However, although profitability was now calculated in relation to assets by branch, this principle could not be carried down to separate products, because it was impossible to determine the amount of assets involved in the production of each item. Hence, the prices of individual products were still formed by adding a profit markup to cost, though with the aim that the sum of profits so derived should yield the desired branch profitability rate in regard to capital. Profitability rates in relation to cost continued to vary widely by product, making some items in the firm's "assortment" much more "advantageous" to produce than others. Also, since price was related to the branch average cost of production, profitability of the same item varied widely by firm, from high profits for low-cost producers to low profits or losses for high-cost firms.

Moreover, because they were set essentially from the supply side, largely neglecting demand (with some exceptions, such as substitute fuels), these prices did not reflect relative scarcities and thus permit the elimination of administrative allocation of materials and equipment. Finally, the widespread revision of producer prices was carried out with little or no alteration in final retail prices to consumers—since changes in the latter, if not offset by changes in wages and transfer payments, would have caused great popular dissatisfaction, as Polish experience has shown.

<sup>18</sup> See Bornstein 76, pp. 21-25.

Thus, little progress was made in eliminating subsidies, on the one hand, and widely varying tax rates on the other. The force of prices in guiding production was therefore limited: if the enterprise could not cover planned costs from planned sales revenue—with both assigned to it by its hierarchical superior—the enterprise had to be assured a subsidy to cover the difference. Widespread use of taxes and subsidies continued to separate both the levels and the structures of producer prices and consumer prices. Hence, the influence of final consumer demand upon production remained weak.

The GDR reform tried also to introduce “dynamic” prices (analogous to “stepped” prices in the U.S.S.R.). As costs fell and profitability rose, the price of a product was to be reduced. At first, the responsibility for initiating these price cuts was delegated to the VVB (association) level. But experience showed that the VVB had little interest in pursuing price cuts which reduced profits, and responsibility for changes was recentralized three years later.

To increase the flexibility of the price mechanism, reformers in some countries advocated a multi-category scheme of price control. (a) “Fixed” prices would be established centrally at a specific level. (b) Some prices would be set centrally only as “maximum” prices, with sellers allowed to charge less. (c) On other items, the central authorities would fix ceiling and floor prices, but permit sellers to adjust prices between these “limits.” Finally, (d) “free” prices would be determined by direct negotiations between seller and buyer. The long-term objective was to decontrol prices gradually by shifting them from more tightly to less tightly regulated categories.

In Bulgaria, a three-tier scheme (of fixed, limit, and free prices) was officially espoused during the reform debate, but the reform guidelines actually approved in 1968 did not include this approach. In Czechoslovakia, the multi-category principle was formally adopted, but not implemented before the intervention by Warsaw Pact forces in 1968 halted the reform movement.

In Hungary, a four-category scheme was cautiously implemented in 1968.<sup>19</sup> The bulk of raw materials were put in the “fixed” and “maximum” categories. Over three-fourths of inter-producer sales of finished goods were formally placed in the “free” category, but control of these prices was effectively exercised through the close regulation of the prices of the raw and semi-finished materials constituting inputs into finished goods, and through supervision of wage expenditures at all levels of production. Agricultural procurement prices remained under close control also. Because a relatively stable retail price level is a cornerstone of Hungarian economic policy, all key items of mass consumption were assigned to the tighter control categories, and only about one-fourth of household consumption expenditures (chiefly fashion items and imported goods) were put in the “free” price category.

At the time of the 1968 reform, its designers hoped (a) that the share of the “limit” and “free” categories in total sales would steadily increase; (b) that prices in the “maximum” and “limit” categories would often be below the ceiling; and (c) that in the “free” category supply and demand forces would lead to price decreases as well as increases. However, after 1968 none of these hopes was realized to a

<sup>19</sup> Bornstein 77 and Hare 76.

significant degree, because of inflationary pressures of domestic and foreign origin. Whereas in 1968 it was expected that the share of the "free" category in consumer expenditures would rise from about 23 percent in 1968 to about 50 percent in 1975, the actual 1975 figure has been estimated at only 35-38 percent. Moreover, various forms of official guidance of "free" prices were introduced, including rules for cost calculation and guidelines for distinguishing "fair" from "unfair" levels of profit above costs so calculated. Hence, little devolution of control over price formation has actually occurred in Hungary.

#### 7. PERFORMANCE INDICATORS

In centrally planned economies, enterprises have multiple performance indicators, which may be grouped into three categories according to their scope or breadth. (a) The narrowest indicators are those referring to an individual productive activity of a firm, such as the output of a particular item, or the introduction of a specific new production process. (b) Somewhat broader are "partial synthetic" indicators expressed in value terms and covering one entire aspect of enterprise operations, like total output, total sales, or total costs. (c) The broadest indicator of all is profit, the residual which reflects all decisions regarding outputs and inputs (and, over a longer time horizon, investment as well). The thrust of reform proposals was to reduce the number of indicators by placing more emphasis on broader indicators.

First, its hierarchical superior should no longer judge enterprise performance by the fulfillment of assignments for such narrow facets of activity as the extent of subcontracting, the growth of labor productivity, the level of inventories, or the introduction of a new machine.

Second, the traditionally dominant indicator of gross value of output should be replaced by sales or value added, because they more nearly represent what society wants from the firm. Gross value of output includes production for the enterprise's own use, such as building repairs and manufacture of replacement parts for machinery; the change (positive if an increase, negative if a decrease) in unfinished production; and the change (positive or negative) in inventories of finished goods. In contrast, sales refers to the dispatch of finished goods to customers. Finally, some reformers considered the most appropriate indicator to be value added (or net output)—usually calculated as the difference between sales and the cost of materials, interest charges, and other payments to entities outside the firm—because it showed the enterprise's contribution to the national income.

Although profit appeared the ideal "comprehensive" performance indicator to some reformers, most recognized that socialist firms could not become true "profit centers" in the sense described in Western management literature. Because centrally set prices did not (even after "price reforms") reflect relative scarcities, the central authorities would not let enterprises single-mindedly pursue profit by adjusting outputs and inputs in the light of those prices. Rather, at most, firms could strive for a kind of "constrained" profit maximization, subject to (maximum or minimum) restrictions which superior agencies imposed on enterprise output, inputs, and investment. Hence, profit could be made a more important performance indicator than previously, but not the sole indicator to the exclusion of some measure of output—gross, sold, or net.

Thus, gross output remained the chief success criterion in Romania, sales was adopted in the GDR, and value added chosen in Poland. In Hungary, with the abolition of central assignment of obligatory plan targets for enterprises, profit nominally became the only performance indicator. But in practice, as explained above, formal and informal supervision of enterprise output level and composition, input use and wages, and prices effectively limits how enterprises can earn profit, as well as its disposition once earned.

#### 8. INCENTIVES

It is the task of the incentive structure to motivate enterprise personnel to strive for good performance in regard to the indicators chosen and the quantitative targets for each indicator in a particular production period. Communist societies have long used both "moral" and "material" incentives for this purpose. "Moral" incentives can appeal to an individual's genuine wish to do whatever is best for society, as this is defined by the state authorities, or to the less unselfish desire for a reward in the form of public recognition and social prestige. In contrast, "material" incentives include both more money income, to be spent on the market (or saved), and material rewards available through non-market channels, such as preference in the allocation of housing or access to special stores not open to the general public. Although appeals to moral incentives continue in the educational system and the media, the East European countries (like the U.S.S.R.) in practice rely overwhelmingly on material incentives to motivate workers and managers—in contrast to the People's Republic of China, where moral incentives (and coercion) have a much greater role.

The actions of individual workers seldom can affect the overall performance of the firm. Therefore, East European incentive systems for workers typically award bonuses for successful or exceptional execution of particular tasks at the workplace, such as economizing on the use of scarce materials or meeting new quality standards, or for adopted suggestions on "rationalizing" production methods. These bonuses traditionally have come from a special portion of the enterprise wage fund, and this practice was retained in most reform proposals, although in Romania bonus payments to workers come out of profits.

The reforms were more concerned with bonuses for managerial personnel, whose individual decisions directly and strongly affect enterprise results regarding output, cost, and profit. Managerial bonus schemes have several elements: (a) the performance indicators whose targets must be fulfilled to qualify for bonuses, (b) a schedule of coefficients stating what results for each indicator will earn what amount of money for the bonus fund, (c) the source of money for the bonus fund, and (d) how the bonus fund is distributed among eligible employees.<sup>20</sup>

The most striking feature of East European bonus schemes is their complexity in the first and second respects. Because enterprises typically have not one but many performance indicators (for reasons explained above), bonuses must in some way reward good results

<sup>20</sup> See Granick 75 for a detailed discussion of managerial bonus systems in Romania, the GDR, and Hungary.

for each indicator. This may be accomplished directly by establishing separate bonuses for each performance indicator, with the respective coefficients or amounts reflecting the relative importance of the different indicators (e.g., sales vs. profit) in the eyes of the firm's hierarchical superior. Or it may be done indirectly through the use of side-conditions, by making the bonus for one indicator contingent upon fulfillment of the plan for another indicator which does not nominally offer a bonus. For example, a bonus due for sales performance may be paid only if the firm has also fulfilled its export assignments, for which no explicit bonus is provided.

The source of funds for managerial bonuses is usually a portion of retained profit, rather than the wage fund as in the case of bonuses for workers. In the GDR and Romania, however, managers may also receive bonuses from special ministerial funds. Such bonuses are paid not according to explicit formulas related to plan fulfillment, but rather on the basis of a more subjective evaluation by the ministry of managerial performance and thus (like promotion) can reward managers who respond properly to "informal" guidance from above.

Reformers advocated establishing incentive structures which were uniform across enterprises (at least within a particular branch of industry) and stable for a number of years. The first feature would bring the management of leading firms higher bonuses than their counterparts in less successful enterprises. The second feature would encourage managers to reveal "reserves" by reducing their fear that when sales or profit rose the bonus coefficients would be changed to prevent managers from reaping the fruits of their efforts.

However, in practice in most countries bonus schemes were not made uniform but instead were tailored by the ministry to its view of the particular circumstances of the individual enterprise or association, with the aim of preventing bonuses in stronger units from becoming too large relative to those in weaker units. In addition, despite assurances that "normatives" for payments to bonus funds would remain unaltered, they were changed frequently and even retroactively. As Fallenbuchl's paper on Poland in this volume points out, managers are not likely to have confidence in a system in which the "rules of the game" are changed not only during, but even after, the game. Finally, in Hungary, where a common formula for determining the size of the bonus fund was applied to all enterprises, the maximum possible size of managerial bonuses was reduced sharply after workers expressed their resentment at the effect of bonuses in widening income differentials between managerial personnel and production workers.

## 9. FOREIGN TRADE

In the traditional pre-reform system, foreign exchange rates were usually quite arbitrary. Producing firms sold exports to, and bought imports from, special foreign trade enterprises at domestic prices completely divorced from the prices at which the foreign trade enterprises dealt with their customers and suppliers abroad. A complex set of highly differentiated taxes and subsidies, handled through a "price equalization fund," covered differences between the domestic prices of goods and the nominal national equivalent of the foreign trade price obtained by converting it into local currency at the arbitrary exchange rate. In these circumstances, producing firms generally had

little interest in foreign trade, which their superiors therefore specified for them in detailed plans.

In regard to foreign trade, reform proposals emphasized two related aspects: closer links between domestic and foreign prices, and some decentralization of decision making to producing units.<sup>21</sup> First, more realistic exchange rates should relate the general levels of domestic and world prices, while a reduction in taxes and subsidies on individual products should align the domestic price structure more closely to the world price structure. Then proceeds from exports and payments for imports could be accurately represented in enterprise accounts, directly affecting their sales, costs, and profits. Second, associations and/or enterprises should be given more authority to determine at least the composition of export production and also the right to negotiate directly with foreign firms, rather than through the intermediary of foreign trade enterprises subordinate to the ministry of foreign trade.

In most countries in the area, both types of proposals were partially implemented, though in different ways and to varying degrees.

Official exchange rates generally were not affected. Instead, shadow exchange rates (often euphemistically called "adjustment coefficients," "foreign trade multipliers," or "direction coefficients") were introduced, usually with different rates for the world market ("dollar") area and the CMEA ("ruble") area. Enterprises producing for export, or purchasing imports, now included these transactions in their financial accounts at the "foreign price equivalent," i.e., the foreign price translated into the national currency at the appropriate shadow rate.

However, in view of the domestic cost level and structure, full application of this new method of evaluating exports and imports would have led to large profits on some items and heavy losses on others and would have drastically altered the profitability of entire firms in fulfilling their assigned foreign trade plans. Hence, wide use of taxes and subsidies, differentiated by product and even by enterprise, continued. Also, it was expected that these shadow exchange rates would be adjusted from time to time to reflect changes in the relationship of the domestic and foreign price levels. But this policy instrument was not used flexibly and promptly. For example, in Hungary, as Portes' study in this volume explains, the authorities did change the "foreign trade multipliers" to reflect the devaluation of the dollar in 1971, but they were subsequently unwilling to revalue the forint enough to compensate for inflation on the world market beginning in 1973. Instead, they intervened further with export taxes and subsidies.

In most countries of the area, at least some producing units gained more contact with foreign customers or suppliers. For example, foreign trade enterprises were integrated into the new associations in Bulgaria, and into associations or industrial ministries in Romania. In the GDR, the network of foreign trade enterprises handling exports was reorganized so that each VVB association would have to deal with only one foreign trade enterprise, instead of several.

Such administrative changes can make it easier for producers to adjust specifications of exports to customers' requirements and to identify which imported machines best meet their needs. But the quantities to be traded, and the prices involved, are usually determined not by the association or enterprise itself but by the branch ministry and/or the ministry of foreign trade—particularly in regard to trade

<sup>21</sup> Brown 73 and Matejka 75.

with CMEA countries, which is arranged in high-level bilateral agreements covering quantities and prices.<sup>22</sup> Thus enterprises still receive foreign trade assignments, and their discretion is usually limited to decisions on some aspects of the assortment, within the specified global total.

#### 10. WORKERS' PARTICIPATION IN DECISIONMAKING

Communist countries have long had formal mechanisms for worker participation in decision making, both through trade union channels and through factory councils. Political speeches often call for workers to take an active role in the formulation, as well as the implementation, of enterprise plans. However, in practice workers seldom have had any significant influence on enterprise decision making—except in Yugoslavia under the system of “self-management” of enterprises introduced over 20 years ago.<sup>23</sup>

Only the Czech reform blueprint included genuine worker control of firms, though differing in important respects from the Yugoslav scheme.<sup>24</sup> Workers' management was implemented in some enterprises for a short period before the intervention of Warsaw Pact forces in 1968. Then it was terminated because it was viewed as a serious threat to Party control over the economy.

#### 11. AGRICULTURE

Economic reforms in Eastern Europe in the late 1960s primarily concerned the non-agricultural sectors, with only secondary attention to agriculture. The main approach to improving economic performance in agriculture was through policy measures rather than systemic changes. The latter involved chiefly organizational aspects.<sup>25</sup>

There were no striking organizational changes comparable to de-collectivization of agriculture in Poland in 1956. Instead, administrative and producing units in agriculture were reorganized in various ways. (a) In Bulgaria and Hungary the separate ministries of agriculture and food industry were merged. (b) Farm size was altered by combining smaller farms into larger ones in Hungary and the GDR, and by dividing larger farms into smaller ones in Romania. (c) Greater horizontal integration was accomplished by grouping farms into associations in Hungary, Poland, and Czechoslovakia, while the GDR stressed vertical integration. Bulgaria sought both horizontal and vertical integration by forming agro-industrial combines including farms and processing plants.

In most countries the government tried to boost agricultural output by various economic policy measures, such as raising prices and adjusting taxes and subsidies; increasing supplies of machinery, fertilizer, and other industrial inputs; and revising farmer compensation schemes to strengthen incentives. But farms still receive targets for sales to state procurement agencies, and the availability of off-farm inputs is controlled by state supply agencies.

<sup>22</sup> Tardos 73.

<sup>23</sup> Standard sources on “self-management” in Yugoslavia include Broekmeyer 70, Adizes 71, Vanek 72, and Wachtel 73. For recent developments, see Tyson's study in this volume.

<sup>24</sup> Rychetnik 68.

<sup>25</sup> Karcz 73 and Lončarević 75.

## 12. PRIVATE SECTOR

To meet consumer demands which state enterprises cannot satisfy, most East European countries permit various small private business activities, such as household plots of farmers, shops of watchmakers and tailors, family-run restaurants or bakeries, and the ownership and rental of private houses and apartments. The scope of this private sector changed relatively little as a result of the reforms.

In agriculture, restrictions on private plot activity were reduced in Bulgaria and Hungary by raising limits on livestock holdings and increasing supplies of feed and tools.

In the non-agricultural sectors, Romania eased restrictions on the amount of labor which private businesses could hire and also promoted private housing construction.

Hungary initially encouraged the growth of the private sector by allowing expanded activity by private artisans and widespread moonlighting by skilled workers, and also permitted agricultural cooperatives to start handicraft and light industry ventures. But by 1971 complaints about "profiteering," "money grubbing," and "materialism" led to higher taxes on private artisans, restrictions on moonlighting and ancillary non-agricultural operations of farms, new limits on real estate ownership, and new taxes on land transactions and private rentals.<sup>26</sup>

Most recently, at the end of 1976, Poland undertook to stimulate private artisan activity by increasing the availability of materials and business premises, raising the ceiling on the number of hired workers per firm, reducing taxes, and extending social security and medical care benefits to private businessmen.

*B. Reasons for Retrenchment*

Thus, the general pattern in Eastern Europe has been one of retreat, as the official reform blueprints—themselves less ambitious than the proposals of reformers—were at best only partially implemented. This section examines some of the principal reasons for retrenchment, including (1) interest group opposition, (2) internal inconsistencies among the reform measures, (3) excessive tautness (insufficient slack), (4) Soviet influence, and (5) developments in the world economy.

## 1. OPPOSITION

Only in Czechoslovakia (before the 1968 invasion) and in Hungary was the Party leadership strongly behind economic reform. Elsewhere in the area the Party leaders had only a diffident, ambivalent commitment to reform. In these circumstances, the staffs of the Party and government bureaucracies, fearing (correctly) that genuine reform would reduce their power, successfully impeded the execution of the relatively modest reforms. On the one hand, they urged caution, delay, and experiment in carrying out reforms. On the other, they recommended revision, curtailment, and reversal when the opportunity arose because contradictions among reform measures were perceived (Subsection 2), because it proved difficult to achieve ambitious

<sup>26</sup> The main issues are summarized briefly in Portes' contribution to this volume and are discussed in detail in Connor 75.

plans (Subsection 3), because the example and advice of the U.S.S.R. suggested a conservative approach (Subsection 4), or because developments in the world economy were unfavorable (Subsection 5).

In Hungary, where reform went much farther than in the other countries, the chief reason for the interruption of the momentum of reform in 1972 appears to have been the discontent of the urban blue-collar working class over the implications of reform for income differentiation and job security. The urban proletariat resented the faster rise in peasant incomes, the size of managerial bonuses, widening inter-enterprise earnings differentials from profit-sharing, and the ability of skilled workers like mechanics and electricians to obtain large secondary incomes from moonlighting. Less skilled manual workers were also alarmed by public discussions of the desirability of "removing brakes" on the further implementation of the reform by "eliminating unprofitable production" and "restructuring" production and employment. The authorities responded to the workers' concern by partial recentralization. They raised money wages for manual workers from central funds (rather than enterprise resources, as the reform provided), increased the powers of planning and price control bodies, put the 50 largest industrial firms under very close ministerial supervision, and tightened the regulation of enterprise investment.

## 2. INTERNAL INCONSISTENCIES

Reform blueprints typically suffered from internal contradictions, because some aspects essential for the successful operation of other aspects were not carried out in the correct way or at the right time. For example, performance indicators were altered to emphasize profit but output plans continued to require firms to produce some products at a loss. Or enterprises were permitted to retain profits for decentralized investment, but the materials allocation system was not relaxed to enable firms to acquire investment goods. As a result, various reform measures failed to yield the hoped for results—which strengthened the hands of opposition groups and either impeded the further implementation of reform or even reversed it.

The most critical dimension of reform from this viewpoint is the price system, because it should link various facets of decision making by providing a comprehensive and mutually consistent expression of relative values for use in evaluating alternatives in production, consumption, and investment. In the reforms of all the countries, fundamental deficiencies in the price system made it impossible to carry out successfully the changes which reformers sought in planning, allocation of materials, labor and wage regulation, performance indicators and incentives, and investment.

As explained above (Subsection A. 6), the central authorities continued to set producer goods prices as the sum of the planned branch average cost of production plus an arbitrary profit markup. But because such prices seldom reflected relative scarcities, the central authorities logically were unwilling in practice to abolish administrative allocation of material inputs and to eliminate obligatory enterprise targets for outputs and inputs. The authorities correctly feared that enterprise managers—motivated by material incentives to strive for good performance in terms of sales, value added, and/or profit calcu-

lated in these prices—would be likely to produce different output levels and mixes, using different input levels and mixes, than the authorities considered necessary. Nor could enterprises, and banks, decide what were the socially most desirable investments. Instead, to obtain the production and investment they wanted, the central authorities not only adjusted prices by a complex system of taxes and subsidies, but also continued to specify output assignments for, allocate machinery and materials to, control wages and labor use in, and determine investment by, associations and enterprises.

### 3. TAUTNESS

A “taut” plan is one whose fulfillment requires great exertion (and/or luck), whereas its opposite, a “slack” plan, can be achieved without special effort. In East European economies the central authorities commonly strive for taut plans for two related reasons: the desire to achieve rapid growth and structural change, and the belief that administrative pressure on enterprises is the best (or only) way to secure maximum performance from them.

However, some slack is essential to carry out reforms. Changes in administrative organization, planning methods, performance indicators, and incentives are bound to be disruptive until ministry and association officials, enterprise managers, and workers understand and adapt to them. During the transition period, economic performance in terms of output, sales, cost, and profit may not improve, and may even worsen. This is more likely to occur if reserves of materials, machinery, consumer goods, and convertible currencies have not been built up before the reform—to deal with foreseeable and unforeseeable difficulties in implementing sweeping new arrangements.

Keren has carefully analyzed the effect of tautness (slack) on the fate of economic reform in the GDR.<sup>27</sup> During the first four years of the New Economic System (NES) in 1964–68, the performance of the economy improved in regard to the rates of growth of national product and exports, the structure of net product, the balance between supply of and demand for consumer goods, and the reduction in the build-up of unfinished construction. This occurred because of a change in planning strategy from tautness to slack as well as because of the introduction of changes in organization, planning, and management.

But when the GDR authorities returned to taut plans in 1969–70, recentralization occurred in various respects, essentially terminating the NES in fact, if not formally. Whereas responsibility for preparing material balances could be delegated to associations and enterprises when plans were slack, tauter plans meant that superior organs had to handle more balances. This would happen even without formal recentralization, because an over-committed balance at a lower hierarchical level inevitably led to appeals to higher levels by users whose allocations had been cut. Tight balances also caused the reshuffling of planned flows and abrogation of contracts—causing a return to “contracts based on balances” (and flows decided from above), rather than “balances based on contracts” (and flows determined by enterprises themselves). Further, taut plans altered the effective performance indicators and incentives, by inducing neglect of cost, profits,

<sup>27</sup> Keren 73, especially pp. 570–72 and 581–82.

and quality in the attempt to fulfill output assignments, and by encouraging managers to amass reserves of labor, materials, and production capacity to prepare for the higher plan targets expected in the future under the "ratchet principle." Finally, taut plans altered the influence of the price system on production. A taut plan for a sector puts a large premium on its capacity and raises shadow quasi-rents and marginal costs high above normal average costs (on which prices are based). Therefore, the tauter the plan, the less will prices convey scarcity information and guide profit-seeking firms correctly in their choice of inputs.

Polish experience also shows that reform measures seldom can survive conditions of stress. According to the Polish economist Kleer, reform involved reduction in the number of directive indicators handed down from higher to lower levels, but—

these were not irreversible changes. When, for whatever reason (a poor harvest, difficulties in foreign trade, excessive investment, etc.), difficulties were heightened, the rights granted were "withdrawn." This was revealed in a growing number of commands in the form of directives or at least informational directives, allocation of raw materials and semifinished goods, greater wage discipline, etc.<sup>28</sup>

#### 4. SOVIET INFLUENCE

The U.S.S.R. has influenced economic reforms in Eastern Europe in several ways: (a) through the example of its own reform, (b) through intervention in Czechoslovakia in 1968, and (c) through its efforts to coordinate production, investment, and trade in CMEA.

(a) The "minor" or "partial" reform countries followed the lead of the U.S.S.R. in regard to reform discussions, reform blueprints, and the pattern and degree of implementation in many (though not all) respects.<sup>29</sup>

This is illustrated by the similarity of the GDR's NES to the Liberman proposals in the U.S.S.R. The latter advocated devolving responsibility for smaller decisions to lower hierarchical levels, while retaining at the top control over more important decisions—by giving enterprises more freedom of maneuver within a centrally determined plan, on whose fulfillment bonus payments depended. The very publication of the Liberman discussion in the U.S.S.R. beginning in 1962 was seen as a green light for a similar debate in the GDR, and many details of the NES mirrored specific Liberman proposals.<sup>30</sup>

But as the limited scope of economic reform in the U.S.S.R. became clear, the East European countries (with the exception of Hungary, and of Czechoslovakia through 1968) followed the conservatism of the Soviet reform in regard to such critical aspects as the price system, obligatory plan indicators, central control over supply allocation and thus investment, and regulation of enterprise wage funds.

(b) Through the intervention of Warsaw Pact forces in Czechoslovakia in 1968, the U.S.S.R. made clear that it would not tolerate an economic reform in Eastern Europe (outside Yugoslavia) which gave market forces a dominant role in guiding the economy, introduced workers' management, and substantially weakened the Party's control of economic, political, and social life.

<sup>28</sup> Kleer 73, pp. 11-12. See also Fallenbuehl's paper in this volume.

<sup>29</sup> On Soviet experience, see, for example, Schroeder 73, Adam 73, and Gorlin 76. The establishment of the association link in the administrative hierarchy, discussed by Gorlin, is one aspect in which the U.S.S.R. appears to have been influenced by East European practice.

<sup>30</sup> Keren 73, pp. 555-56.

Although the Hungarian reform was also of the "comprehensive" type, it proved acceptable to the U.S.S.R. because it excluded workers' management, retained the unified Party's leading role in society, and assured the primacy of the U.S.S.R. and other CMEA countries in Hungary's external political and economic relations.

(c) Thus, the U.S.S.R. evaluated economic reform in Eastern Europe in terms of the implications for Soviet political and economic control of the area. The U.S.S.R. believes it is easier to achieve the bilateral and multilateral production, trade, and investment relations it desires in CMEA (1) if member countries' internal planning and management systems are essentially similar, and (2) if these similar systems involve little devolution of decision making, since decentralization would make it more difficult to negotiate and implement CMEA agreements.<sup>31</sup>

##### 5. DEVELOPMENTS IN THE WORLD ECONOMY

When a nation experiences disturbances in its foreign economic relations—for example, inflation in countries supplying imports or recession in countries buying exports—there is usually a centralized response, in the form of adjusting exchange rates, exchange controls, tariffs, import quotas, and internal taxes and subsidies. Thus, adverse developments in the world economy can be expected to retard or reverse decentralizing economic reforms.

In most of Eastern Europe, economic reforms had stalled before the expansion of East-West relations early in the 1970s made these nations more vulnerable to inflation and recession in the world market—which occurred following the Arab oil embargo in 1973 and the subsequent OPEC-dictated increases in oil prices.

However, these developments did affect the course of reform in Hungary and Poland. In Hungary, the New Economic Mechanism (NEM) of 1968 had assumed a stable world market—not one in which rapid import price rises outstripped export price increases, leading to a severe deterioration in the terms of trade, first with developed and less developed market economies in 1973–74 and then within CMEA in 1974–75. The authorities had to face the conflict between their desire for approximate stability in domestic producer and consumer prices, on the one hand, and the reform's principle that changes in external markets should affect enterprises' production and use of inputs through changes in prices. The authorities chose the former alternative, resorting to large subsidies and export taxes to preserve the prevailing pattern of enterprise activities. As a result, according to a leading Hungarian economist, contrary to the intent of the reform, "the enterprises were interested in successful negotiations with the state organs responsible for taxes and subsidies rather than in adaptation to market tendencies."<sup>32</sup>

In Poland, as Fallenbuchl's paper in this volume explains, inflation on the world market was a major cause—along with internal inconsistencies and excessive tautness—of the retrenchment in Gierek's reforms. On the one hand, foreign inflation raised import prices, but because of the political importance of price stability, import price rises were mostly offset by large increases in subsidies. On the other

<sup>31</sup> See Marsh 76 for a detailed discussion of these issues.

<sup>32</sup> Tardos 75b, p. 287.

hand, to induce organizations to produce for export, the reform had included the principle of calculating a firm's exports at so-called "realization prices" directly related, through foreign exchange coefficients, to the actual prices in foreign currencies. Hence, higher prices in foreign markets raised the amount of sales, value added, the wage fund, and other enterprise funds. To prevent firms from enjoying windfall increases in these funds due not to their efforts but to changes in the world market, "normatives" for allocating money to these funds were reduced, and part of the funds was frozen or transferred to the control of ministries.

#### IV. CONCLUSIONS

The reform movement in Eastern Europe emerged because of dissatisfaction with the nature and results of the traditional Soviet-type economic system installed in the area after World War II. The struggle between pro- and anti-reform forces varied by country and led to different reform blueprints, incorporating diverse concepts of "decentralization" and dissimilar implementation strategies.

Throughout the area, there was a retreat from reform—earlier, faster, or farther in some countries than others. The reasons included interest group opposition, internal inconsistencies, insufficient slack, Soviet influence, and developments in the world economy. Only Hungary now has a significantly different economic system, although formal and informal central intervention in the Hungarian economy is much greater than intended when the NEM was introduced in 1968.

As a result, it is not possible to determine whether and how much economic reform—in the sense of comprehensive mutually consistent decentralizing systemic changes—can improve economic performance. In most countries, economic reform was not really carried out, or at best was implemented partially for a short period, while internal economic policies—regarding plan tautness or living standards—and the external environment were changing.<sup>33</sup>

The problems of unsatisfactory growth rates, balance of payments difficulties, lagging technological progress, and popular discontent with living standards continue throughout the area. In their search for ways other than systemic change to improve economic performance, the regimes of these countries have turned their attention to foreign trade and investment.

Through expanded East-West economic relations, stemming from Soviet-U.S. "détente," the East European countries (like the U.S.S.R.) hope to import Western machinery and equipment, licenses for processes, and in some cases consumer goods—in order to expand output, stimulate technological progress, increase exports, and satisfy demands of their populations. However, as other studies in this volume explain, these hopes are constrained by the inability to increase hard-currency exports fast enough. At first, the gap was covered by Western credits, but outstanding indebtedness is now large—particularly for Poland but also for other countries—and servicing the debt absorbs a large and rising portion of export earnings. Hence, these countries are

<sup>33</sup> On problems in evaluating the effects of economic reform, see Zielinski 73, pp. 298-308.

especially interested in "industrial cooperation" agreements with Western firms which include selling at least part of the output to hard-currency countries.

As Fallenbuchl argues in his contribution to this volume, some systemic reform may be helpful or even necessary to take full advantage of Western machinery and technology and to expand exports to pay for them. For example, changing the price system to reflect scarcities more accurately and valuing exports and imports at the proper domestic equivalent of their foreign prices would lead to more sensible central decisions on the composition of exports and imports and the pattern of investment. These measures could also induce firms to increase the quantity and quality of exports and to economize on the use of imports—provided that performance indicators and incentives were adapted to give adequate and assured rewards to the personnel of firms accomplishing these difficult tasks.

However, given the current and prospective balance of payments situations of these countries, the central authorities are likely to retain close control over hard-currency exports and imports, as well as negotiations with foreign banks for credits and with foreign firms for joint ventures. Thus, little devolution of authority over these matters to enterprises and associations is probable.

Furthermore, the East European economies will remain heavily involved in CMEA, both because of Soviet pressure and because their ability in the short- or medium-term to restructure their economies toward more trade with the West is limited. Also, after their sobering experience with fluctuations in prices and quantities on the world market since 1973, they appreciate more keenly the advantages provided by the stability of CMEA trade agreements. But, as explained above, integration in CMEA discourages economic reforms which differentiate the member countries' economic systems and give enterprises autonomy which complicates fulfillment of centrally-negotiated agreements.

Thus, expanded trade and investment relations with the West and with CMEA are viewed more as alternatives than as comparisons to internal economic reforms.

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# THE INTRA-CEMA FOREIGN TRADE SYSTEM: MAJOR PRICE CHANGES, LITTLE REFORM

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### I. INTRODUCTION

At the beginning of 1975, the prices which the Soviet Union and the countries of Eastern Europe used in their trade with one another underwent sweeping revision. The timing as well as the scope and size of the changes was noteworthy, since no major overhaul of intra-CEMA trade prices had been scheduled until the beginning of 1976.<sup>1</sup> Prices, at the time of the change, were supposed to have remained fixed from 1971 through 1975, with price relationships guided by the average of so-called world prices in 1965-69.

The premature institution of a new set of price relationships in intra-CEMA trade was accompanied by an announcement of a new method of averaging world prices as the prime determinant of intra-CEMA trade prices. Formerly, prices for a prescribed interval—a five-year plan period—were based on world prices for a specified preceding period. Starting in 1975, world prices were to be applied more flexibly, with intra-CEMA trade prices in any given year to be based on world prices for the immediately preceding five years.<sup>2</sup>

There were also indications that there would be a marked expansion of above-plan trade, a large portion of it apparently to be conducted on a hard currency basis and at current world prices rather than through the barter type arrangements based on lagged world prices that characterize most intra-CEMA trade.

This paper will address itself to two of the many questions raised by the changes summarized above. First, it will examine why the price

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<sup>1</sup> CEMA stands for the Council of Mutual Economic Assistance. Its members include the Soviet Union, Bulgaria, Czechoslovakia, the German Democratic Republic (GDR), Hungary, Poland, Romania, Cuba, and Mongolia. The stated purpose of CEMA, which was created in 1949, is to promote integration and coordination of economic activities among the member countries. (CEMA also goes by the initials COMECON.)

<sup>2</sup> However, for some commodities (notably oil), it was indicated that the reference period for 1975 would be 1972-74 rather than 1970-74.

changes were made when they were and with what effect. It will then explore the somewhat broader issue of whether the new pricing formula and the alleged expansion of intra-CEMA hard currency trade signal basic changes in the intra-CEMA trading system.

Our main conclusions can be summarized as follows:

- Intra-CEMA trade prices were prematurely raised at the initiative of the Soviet Union to bring the USSR's terms of trade vis-a-vis Eastern Europe more in line with what they would have been if based on current, rather than lagged, world prices. The immediate effect of the rises in CEMA prices was to improve the USSR's terms of trade substantially but still by much less than would have been the case if current world prices had been applied.
- The new price formula will not bring about fundamental changes in the intra-CEMA trade system and indeed could complicate the price formation process further without achieving compensating improvements.
- Hard currency trade within CEMA does not appear to have expanded very much and is not likely to increase to the point where it will significantly alter the basically bilateral, barter-like character of trade among CEMA countries.

Our discussion of how and why these conclusions were reached will be preceded by a brief description of the operation of intra-CEMA trade.

## II. MAIN FEATURES OF THE INTRA-CEMA TRADING SYSTEM

Trade among the Soviet Union and the countries of Eastern Europe is conducted for the most part through bilateral barter arrangements, generally formulated in five-year and annual trade agreements between pairs of countries. There is considerable emphasis on balancing trade and, in fact, annual bilateral imbalances within CEMA are generally small and are even smaller for five-year plan periods as a whole.

Annual or even five-year plan balance on trade account is not, however, a necessary condition for intra-CEMA bilateralism, which refers essentially to the fact that overall payments in external economic relations within CEMA flow almost exclusively in bilateral channels. Bilateralism prevails basically because it greatly reduces uncertainty regarding allocation of resources that could be disruptive to centrally planned economies. Under multilateralism, a claim that one country obtains through trade or other transactions with a second country can be used to buy goods and services in a third country. However, if the third country is one with a planned economy, to the extent that the purchase order is unexpected, it is likely to force an unforeseen reallocation of resources which could jeopardize the achievement of plan targets, an obviously unwelcome development in such an economy.

Thus, for example, if one CEMA country runs a surplus in trade with another CEMA country in a given year, it is unlikely to be able to use the claim thus obtained to buy goods in a third country. Instead, its claim, in general, could only be exercised through subsequent purchases of goods and/or services in the country in which the claim originated—for instance, by running an offsetting trade deficit in the

future. In other words, multilateralism within CEMA is conspicuous by its absence or, at best, by its very limited presence.<sup>3</sup>

Making the climate for multilateralism within CEMA even more unfavorable is the fact that the goods that a third country would make available, if it was willing to make them available at all, would probably be so-called "soft goods." These are goods (mostly manufactures) that are overpriced in CEMA trade in the sense that they are bartered at ratios much more favorable than CEMA countries could obtain if they sold these goods in Western countries. The likelihood that an order for so-called hard goods would be accepted is slim. Hard goods refer to commodities (generally, raw materials) that tend to be underpriced in intra-CEMA trade and are readily saleable in the West at going market prices.<sup>4</sup>

Thus, even though the institutional machinery for it exists,<sup>5</sup> multilateralism on any but the most minor scale is all but precluded within CEMA. Since countries can make only the most restricted use of balances in transferable rubles<sup>6</sup> outside of bilateral channels, they have no incentive to accumulate them and indeed seek to avoid accumulating them.<sup>7</sup>

What about the prices at which goods are traded within CEMA? For systemic reasons, domestic prices of traded goods cannot be translated into meaningful intra-CEMA trade prices. The basic problem is that market forces play a negligible role in determining the allocation of resources. The situation is not one of a multitude of independently operating firms and individuals in many countries buying and selling in essentially free markets, thus allowing market forces to determine domestic prices and the exchange rates that govern international transactions. Instead, even in the economically more liberal Eastern European countries, administrative determination of resource allocation prevents prices from adequately reflecting relative scarcities, as is the case in market economies. Furthermore, market forces, as understood in the West, play virtually no part in determining intra-CEMA trade flows. Rather, these flows are determined, for the most part, by the central authorities of pairs of countries bargaining with each other over what to trade and, in effect, the ratios at which a given good or group of goods should be exchanged for another good or group of goods. This procedure likewise prevents the emergence of a realistic or equilibrium exchange rate. A nominal commercial exchange rate exists for the currency of each CEMA country vis-a-vis the currency of every other country, but these exchange rates play no role in the price formation process in the bilateral barter-type trade that predominates within CEMA.

<sup>3</sup> Perhaps 5 percent of intra-CEMA trade is settled on a multilateral basis.

<sup>4</sup> For a discussion of hard and soft goods, see Mark Allen, "The Structure and Reform of the Exchange and Payments System of Some East European Countries," International Monetary Fund Staff Papers, XXIII:3 (November 1976).

<sup>5</sup> The Bank for International Economic Cooperation (IBEC) was put into operation in 1964 in large part to foster multilateralism in CEMA. IBEC is equipped to provide the clearing and credit services that would facilitate multilateral settlements. Settlement of trade transactions among CEMA countries is in fact conducted through IBEC, but settlement continues to be on predominantly bilateral basis.

<sup>6</sup> The transferable ruble is the unit of account in which transactions conducted through IBEC are denominated and in which the claims and liabilities of IBEC are denominated. More about the transferable ruble below.

<sup>7</sup> The phenomenon of transferable ruble balances not being able to buy goods except those designated in trade plans is called "commodity inconvertibility." See Franklyn D. Holzman, "International Trade Under Communism—Politics and Economics," (New York, Basic Books, Inc., Publishers, 1976).

To solve the problem of deciding at what ratios physical quantities of different goods should be exchanged for one another, CEMA countries look to world market prices for guidance.

Conceptually, there is an element of rationality in this procedure, since the countries of Eastern Europe, and even the Soviet Union, despite the imposing size of its economy, play a very small role in world trade for most commodities. They therefore exert little influence on world markets and, in fact, in trade with the West buy and sell at prevailing prices. They are, in economic shorthand, price takers, not price makers. However, the absence of domestic prices and exchange rates that adequately reflect cost and demand factors makes it difficult for CEMA countries to ascertain what goods they can most advantageously buy and sell. This problem resort to world markets cannot solve.

How specifically to apply world prices, furthermore, is a contentious matter. Even after allowance is made for differing transportation costs, prices of even homogeneous products, because of market imperfections, may vary from market to market. For heterogeneous products—many manufactures, particularly machinery—the search for suitable world prices is much more difficult, with disagreement over what constitutes an appropriate noncommunist counterpart product highly likely.

Application of world prices also requires adjustments that take into account transportation costs. This is accomplished through use of agreed upon formulas.<sup>8</sup>

The determination of what world prices are to be used, and with what adjustments they are to be applied, is made in the many separate negotiations of trade agreements that take place annually between pairs of CEMA countries. The terms of trade between pairs of countries will thus depend to a considerable degree on the relative bargaining strengths and skills of the trade partners. One consequence of setting prices in this manner is the phenomenon of multiple prices for the same good, the price varying from agreement to agreement.

The world prices finally agreed upon include adjustments not only for transportation costs, but according to CEMA countries, to eliminate "seasonal, cyclical, speculative, and monopolistic factors." What, if anything, all this means and how the adjustments are made is not clear. Presumably, though, using an average of prices over an interval of several years as a reference period, as CEMA has done and continues to do under the new formula, would eliminate or reduce the influence of cyclical, seasonal and speculative factors.

Though world prices provide the yardstick by which intra-CEMA trade prices are established, intra-CEMA trade is reported in terms of a unit of account called the transferable ruble. This is achieved by converting the world prices used into TR's through application of official exchange rates of the TR vis-a-vis other currencies. (TR exchange rates are in fact determined by the official exchange rates of the Russian ruble with respect to other currencies.)<sup>9</sup>

<sup>8</sup> The basic formula calls for addition to the base price of half of what it would have cost to ship the good to the buyer from the market where it would presumably have been bought in the absence of a CEMA-country supplier.

<sup>9</sup> It should be stressed, however, that the TR is little more than a unit of account. It does not fit the definition of money, its use and value as a medium of exchange and a store of value being virtually nil. For an excellent discussion of the TR's lack of the properties associated with money, see Franklyn D. Holzman, "Ruble Convertibility," Cambridge, Mass.: Russian Research Center, Harvard University, 1976.

### III. THE 1975 PRICE CHANGES

The basic reason for switching to a new formula for applying world prices to help set intra-CEMA trade prices in 1975 was that the cost of the old formula to the Soviet Union had become excessive. The USSR, the dominant member of CEMA, had become the biggest loser, in opportunity cost terms, from the explosive rise in prices of raw materials, notably oil, in 1973 and the first part of 1974.

In a period characterized by relatively stable world prices—where, furthermore, trade with the non-communist world is not of crucial importance—using world prices from some fixed previous period as the reference point for prices in an extended subsequent period is reasonable. It provides the economic planners with the stability and certainty they so highly treasure without imposing serious economic penalties.<sup>10</sup>

In the 1970's, however, the conditions of price stability and lack of concern about trade with the West were not met. This was a period of volatile price movements that coincided with a drive by the Soviet Union and most of the countries of Eastern Europe to expand trade with the West to help modernize their economies. Consequently, the convenience of prolonged price stability came increasingly into conflict with economic rationality. The gap between the terms on which the Soviet Union sold oil in the West and on which it sold it in Eastern Europe was the main reason for the Soviet-engineered institution of a new price formula. The price changes introduced in early 1975 in intra-CEMA trade consisted primarily of increases for a broad range of commodities, with the largest boosts, proportionately, being for fuels and other raw materials.

Soviet terms of trade with respect to the six East European countries during the first four years of the Five-Year Plan period 1971-75 changed very little, as measured by two terms of trade indices compiled by one of the authors of the present paper. One index was constructed from official Soviet data on increases in the value and volume of Soviet trade with CEMA countries. The other—using a method devised by Edward A. Hewett—was compiled on the basis of unit values in the USSR's trade with its Eastern European trade partners. The unit values were computed from official Soviet trade data and then weighted by appropriate values of Soviet trade, also from official sources.<sup>11</sup>

That the changes in the Soviet Union's terms of trade vis-a-vis Eastern Europe in 1971-74 were insignificant is to be expected, of course, given that intra-CEMA trade price relationships during this period were supposed to have remained stable, on the basis of the 1965-69 averages of world prices.

The high opportunity cost of this terms of trade stability is indicated by calculations, utilizing UN data on world export prices, that the Soviet terms of trade from 1971-74 might have improved by 30 to 40 percent if changes in Soviet intra-CEMA trade prices had moved in conformity with changes in world trade prices.<sup>12</sup>

<sup>10</sup> Prices of individual items do change during periods of supposedly fixed prices, but these alterations pretty much cancel out in that they do not significantly change the terms of trade between pairs of countries. Such price revisions are therefore devoid of any substantive economic significance.

<sup>11</sup> For a detailed description of these indices, see Martin J. Kohn, "Developments in Soviet-Eastern European Terms of Trade, 1971-75," in "Soviet Economy in a New Perspective" (Washington, D.C., Joint Economic Committee, Congress of the United States, 1976). Hewett's unit value based terms of trade indices are presented in Edward A. Hewett, "Foreign Trade Prices in the Council For Mutual Economic Assistance" (London, Cambridge University Press, 1974).

<sup>12</sup> Kohn, "Developments in Soviet-Eastern European Terms of Trade, 1971-75," p. 76.

The overriding cause of the disparity between the actual movements in the USSR's terms of trade vis-a-vis Eastern Europe and what these movements would have been if current world prices had prevailed in intra-CEMA trade was the quantum jump in the price of oil in 1973-74. Crude oil prices at the beginning of 1975 were roughly four times higher than they had been 15 months earlier. Oil, mostly in crude form, has long been a major Soviet export to Eastern Europe (except for Romania). During the first four years of the Five-Year Plan 1971-74, oil sales accounted for 10.6, 11.4, 12.0, and 12.2 percent respectively, of the total value of Soviet exports to the Eastern European members of CEMA. Clearly, therefore, maintaining oil prices unchanged was costly to the USSR.

The undoubted importance of oil in impelling the Soviet Union to revamp CEMA trade prices ahead of schedule is underscored by evidence that its terms of trade vis-a-vis Eastern Europe as measured by current world prices would have improved negligibly if at all if it were not an exporter of oil.<sup>13</sup> Furthermore, there would apparently have been little advantage to the USSR to change from a 1965-69 to a 1970-74 price reference base in the absence of oil exports. This is indicated by computing what the USSR's terms of trade vis-a-vis Eastern Europe would have been if 1970-74 or 1972-74 rather than 1965-69 world prices had been used, first when Soviet exports and imports of fuel are included and then when they are excluded. Specifically, UN world export price indices covering the intervals in question were weighted by the appropriate values of Soviet-Eastern European trade in 1974 (when 1965-69 world prices were still the reference period) to yield export and import price indices from which the terms of trade were then computed. The results—which, along with the method used to derive them, are presented in Appendix 1—show that if 1970-74, rather than 1965-69, world prices had been in effect in 1974, Soviet export prices to Eastern Europe would have been 60 percent higher, import prices 41 percent higher. The terms of trade—and it should be understood that we are referring here to hypothetical terms of trade—would thus have increased by about 13 percent in the USSR's favor by using the prices of the later instead of the earlier period. When the fuels component of these indices are removed, however, there is virtually no change in the terms of trade, with the rise in export prices reduced to 40 percent and the rise in import prices to only 38 percent. (Data limitations required use of an export price index for all combustible fuels to be used as a proxy for oil in computing these indices. As Table 4 in Appendix I suggests, this probably had only negligible effects on the results.)

The comparison of 1972-74 to 1965 prices shows an improvement in the USSR's terms of trade of 20 percent when fuels are included, Soviet export prices rising by 89 percent, import prices by 57 percent. But, as with 1970-74 prices, the terms of trade gain for the Soviet Union drops to practically nothing when fuels are removed from the calculations, export prices rising by 56 percent, import prices by 53 percent.

Oil is also a major Soviet export to non-Communist countries and, as a result of the 1973-74 price rises, has become the USSR's major

<sup>13</sup> Kohn, "Developments in Soviet-Eastern European Terms of Trade, 1971-75," pp. 75-76.

earner of hard currency.<sup>14</sup> Consequently, one of Moscow's motives for instigating the 1975 price changes in intra-CEMA trade was almost certainly to discourage Eastern European demand for Soviet oil. However, the approximate doubling of Soviet oil prices still permitted Eastern European countries to buy oil from the USSR on considerably more advantageous terms than from non-communist oil producing countries. So the inhibiting effect was presumably minimal. However, it may increase, since, under the new pricing formula, for several years relatively low prices of earlier years will drop out of the five-year periods used to compute oil prices and be replaced by much higher values for later years. However, though the advantage to Eastern Europe of buying oil from the USSR may decrease, it will not disappear. OPEC oil prices continue to rise, and it is unlikely that the rate of increase will lag behind the rate of increases in the prices of East European exports to the USSR.

A far more effective means to discourage Eastern European demand for Soviet oil would be to charge prevailing market prices. The Soviets are in fact almost certainly doing this, but evidently only for a relatively small proportion—perhaps 10 to 15 percent—of their oil sales to Eastern Europe. The Soviets are apparently resigned to remaining Eastern Europe's major source of oil. Data on future plans suggest that Soviet oil shipments to Eastern Europe will be about 80 million metric tons in 1980, about a 25 percent increase over the slightly more than 63 million tons exported there in 1975.<sup>15</sup>

By how much did the price changes of early 1975 improve the USSR's terms of trade? Indices compiled using unit values computed from official Soviet trade data as proxies for foreign trade prices show an improvement of about 11 percent when 1974 value weights are used and about 14 percent with 1975 value weights.<sup>16</sup> The results are shown in Table 1 below:

TABLE 1.—SOVIET-EASTERN EUROPE TERMS OF TRADE, 1975 VIS-A-VIS 1974  
[1974=100]

	Soviet export prices		Soviet import prices		Terms of trade index	
	1974 weights	1975 weights	1974 weights	1975 weights	1974 weights	1975 weights
Bulgaria.....	139	156	130	137	107	112
Czechoslovakia <sup>1</sup> .....	142	144	123	121	115	119
German Democratic Republic.....	147	154	121	125	121	125
Hungary.....	140	150	127	129	110	116
Poland.....	141	151	139	144	102	104
Romania.....	134	143	132	138	102	105
6 countries combined.....	142	151	128	132	111	114

<sup>1</sup> An arbitrary index number was used to reflect the change in unit values from 1974 to 1975 of Soviet imports of metals and metal ores from Czechoslovakia. The U.S.S.R. publishes only the total value of such imports, giving no physical quantity figures. Because of their heavy weight in total Soviet imports from Czechoslovakia—15 percent in 1974, 12 percent in 1975—it appeared that assigning an arbitrary but reasonable estimate of the change in the unit value of imports of metals and metal ores would distort the overall index of unit value changes in Soviet imports from Czechoslovakia far less than would exclusion of imports of metals and metal ores entirely. The index number assigned was that for the change in unit values of the corresponding Soviet exports to Czechoslovakia (Soviet trade classification groups 24 through 27).

Source: "Vneshnyaya Torgovlya SSSR v 1975 g."

<sup>14</sup> About \$4 billion in 1976, roughly 40 percent of total Soviet revenue from hard currency exports. In 1972, before the oil price explosion, oil export earnings were only \$555 million, 20 percent of the value of total Soviet hard currency exports.

<sup>15</sup> Eastern Europe (except for Romania) is heavily dependent on the USSR for oil. The proportion of crude oil imports accounted for by the USSR ranges from about 75 percent for Hungary to over 95 percent for Czechoslovakia. Of the five Eastern countries that import oil from the USSR, only Hungary produces crude of its own. Hungary's oil output equals slightly less than a quarter of its imports.

<sup>16</sup> The method by which these indices were compiled is essentially that used in Hewett, *Foreign Trade Prices in the Council For Mutual Economic Assistance*. The results in Table 1 were computed using the method employed in Kohn, "Developments in Soviet-Eastern European Terms of Trade, 1971-75," pp. 78-80.

The results in Table 1 for the six countries combined is roughly in line with the computation of a 10 percent improvement in the USSR's overall terms of trade vis-a-vis Eastern Europe that can be derived from official data on changes in the value and volume of trade from 1974 to 1975.<sup>17</sup>

Clearly, the improvement in the USSR's terms of trade in 1975 fell far short of the improvement that application of world price changes since 1971 would have dictated. In this respect, the Soviet initiated price changes of early 1975 were relatively moderate, implying an effort to minimize the adverse effect of the increased prices on the economies of Eastern Europe. However, if the new price formula is rigorously applied, Soviet terms of trade, in all probability, will continue to improve for several years. Furthermore, though restrained in terms of what they might have been, the 1975 price changes may well have had a markedly adverse effect on four of the six countries of Eastern Europe. Romania and Poland, as raw materials exporters themselves, were little affected by the price revisions. But the GDR, Czechoslovakia, Hungary and Bulgaria would have had to increase their volume of exports by substantial amounts to maintain a given volume of imports from the USSR, their most important trade partner. To express the negative impact for these four countries in rough quantitative terms, the physical volume of imports that they could obtain from the USSR in return for what they actually exported to the USSR in 1975 was lower in 1975 compared to what it would have been in 1975 by amounts equivalent to roughly 1 percent of GNP for the GDR, Bulgaria, and Hungary, and over one-half of 1 percent in the case of Czechoslovakia. These are not negligible amounts.

#### IV. IMPLICATIONS OF THE NEW PRICING FORMULA

The new formula reflects an attempt by Moscow to resolve the conflict between advancing its own economic goals and safeguarding economic, and thereby, political equilibrium in Eastern Europe. Soviet economic interests would have been best served by moving from 1965-69 to current world prices in early 1975. But such a step would have been not only an abrupt departure from past practice, but more important, a severe economic blow to all Eastern European countries save Poland and Romania.

However, though in effect a compromise solution, introduction in 1975 of a lagged but annually changing reference interval was apparently to the USSR's advantage. Although it does not permit the Soviets to bring CEMA and world trade prices into line at a single stroke, it will almost certainly produce a steady improvement in the

<sup>17</sup> Kohn, "Developments in Soviet-Eastern European Terms of Trade," p. 74 and pp. 76-77. The 10 percent improvement in the USSR's terms of trade computed from the value and volume data are more comparable to the unit-value based results using 1975 value weights than the results using 1974 value weights. This is so because a terms of trade index derived by using a value index deflated by a volume index using base year price weights (as is true of the Soviet trade volume index) yields a terms of trade index weighted by terminal year quantities:

$$\left( \frac{\sum p_{oi} q_{oi}}{\sum p_{oi} q_{oi}} \right) \left( \frac{\sum p_{oi} q_{oi}}{\sum p_{oi} q_{oi}} \right) = \frac{\sum p_{oi} q_{oi}}{\sum p_{oi} q_{oi}}$$

where:

$p_{oi}$  = the price of the *i*th item in the base year,  
 $p_{ti}$  = the price of the *i*th item in the terminal year,  
 $q_{oi}$  = the quantity of the *i*th item in the base year,  
 $q_{ti}$  = the quantity of the *i*th item in the terminal year.

USSR's terms of trade vis-a-vis Eastern Europe for several years. Moreover, it established the principle of continuous adjustment of CEMA prices to reflect changes in world prices.

However, the lagged moving average system may cause as many problems as it solves. With a lag of five years, there is substantial risk, in a period of large and rapid price changes, that intra-CEMA trade price relationships will move out of line with world price relationships. At the same time, the procedure of changing prices every year presumably is administratively costly and threatens to make the price setting process more disorderly than it was. As stated above, world prices are not rigorously or systematically applied but serve as reference points and bargaining tools. With price setting now an annual affair, the apparently enormous amount of time and effort always required to agree upon prices is likely to have been multiplied many times over, with the likelihood of an increased frequency of such phenomena as multiple prices for the same item. Hungarian economist Sandor Ausch noted, with reference to the pre-1975 system, that "negotiations preceding general price revisions are prolonged through several years . . ." <sup>18</sup>

Only scant information is available about the application of the new formula. However, there are some indications that it is frequently used in a loose, improvisational manner. It was never made clear, for instance, which commodities in 1975 were to be priced according to the 1970-74 average, which according to the 1972-74 average. In fact, we have been told that the actual situation was one of considerable confusion, with reference intervals in addition to the officially reported ones being employed.

Oil offers an example of how the formula may be rigorously and flexibly applied at different times. In 1976, the price of oil charged by the USSR to Eastern European buyers apparently rose by about 8 percent. This is in keeping with what one would have expected in terms of the formula. In 1975, oil was supposedly priced according to average world prices for 1972-74; in 1976, according to the 1971-75 average. The price of Middle Eastern oil that the Soviets presumably would use as a world price reference did in fact average 8 percent higher in 1971-75 than in 1972-74.

In 1977, however, there are indications that the formula is not being adhered to. Middle Eastern oil prices averaged 30 percent more in 1972-76 than in 1971-75. But the price of Soviet oil exports to Hungary in 1977 has been raised by only 22.5 percent. This suggests that the Soviet Union is retreating from strict application of the formula, perhaps to help ease economic strains in Hungary.

Admittedly, this interpretation of the 22.5 percent boost is highly speculative. Other explanations can be offered. For example, Hungary could be changing the prices of its exports to the USSR by less than called for in the formula so that the terms of trade between Hungary and the USSR will move in accordance with what the formula would indicate.<sup>19</sup> However, the fact that the price increase appears to have been exactly three-fourths of the rise called for by the formula raises

<sup>18</sup> Sandor Ausch, "Theory and Practice of CMEA Cooperation," (Budapest: Akademiai Kiado, 1972), p. 90.

<sup>19</sup> For a discussion of the increase in the price of Soviet oil exports to Hungary, see Radio Free Europe Research, Harry Trend, "First Announcement of Price to be Paid for Soviet Oil in 1977," RAD Background Report/7 (Eastern Europe), 11 January 1977.

the suspicion that a concession of some sort is being made. This would be consistent with Soviet efforts to avoid intensification of economic stresses that could add to the political unrest evident in parts of Eastern Europe at present. The clearest demonstration of this policy was the one billion ruble credit the USSR extended to Poland in late 1976. But raising prices by less than prescribed amounts is also aid, albeit of a more oblique variety.

The new pricing formula implies reduced rigidity in the application of world prices to intra-CEMA trade. It also suggests a heightened awareness on the part of the USSR of closer and broader economic ties with the non-communist world. However, it does not represent evidence of any fundamental reform in the intra-CEMA trading system. World prices are evidently being applied in more flexible fashion. But they are not being phased out as key determinants of CMEA trade prices, and—more important—there is no indication that the new formula is leading to the elimination of the distinction between hard and soft goods. (See Section V.) Closer East-West economic relations do not appear, therefore, to be producing any systematic effort to introduce realistic domestic prices and, with them, realistic exchange rates, in Eastern Europe and the Soviet Union. Such an effort is presumably a necessary condition of fundamental change in the intra-CEMA trade system.

#### V. INTRA-CEMA HARD CURRENCY TRADE

The 1975 price changes and subsequent occurrences implied that trade settled in hard currency or, what amount to the same thing, exchanges of goods at current and realistic world prices, would increase, accounting for a growing share of total intra-CEMA trade.

Such a development would have been logical, particularly as regards the trade of CEMA's most powerful member, the USSR. As already observed, even with the improvement in Moscow's terms of trade in 1975, the Soviet Union was still selling much of its exports of oil, and other raw materials, at what amounted to below world market prices, that is, on terms less favorable to itself than were available in non-communist markets. To at least partially offset this continuing subsidy to Eastern European countries, it would make sense for the USSR to increase trade at more realistic ratios of exchange for some portion of its trade.

There have been several indications that intra-CEMA hard currency trade may indeed be increasing. At the time the 1975 price changes were disclosed, it was announced that, in 1975, the USSR would deliver to Hungary 760,000 tons of crude oil above the 6 million tons of planned shipments, with the additional quantity to be paid for by Hungarian purchases in "third markets." The strong implication was that some 11 percent of Hungarian imports of crude oil from the USSR was to be paid for in hard currency. The purchase in third markets presumably referred to goods bought in the West for delivery to the USSR. If this were the case, the arrangement would have been substantively no different from a direct Hungarian hard currency payment to the Soviets which was used to import the desired goods from Western countries.

In mid-1976, a ten-year "above plan" trade agreement between Hungary and the USSR was announced. It called for exchanges of raw materials between the two countries, with the value of such trade in the first five years of the agreement estimated at about 8 percent of planned trade in 1976-80. The implication again was that this trade would take place at world prices.<sup>20</sup>

Unfortunately, aggregate data for CEMA as a whole that could establish the size of hard currency trade within CEMA recently and in the more distant past are lacking. What little comprehensive statistical evidence that is available does not support a conclusion of significantly expanded hard currency trade in the wake of the 1975 price revisions.

It should be made clear that some hard currency trade among CEMA members has always taken place. Writing in 1968, Ausch commented, ". . . certain 'hard commodities' are even now paid for in convertible currency." He then added, "This however, has nothing to do with the bilateral accounts led in clearing rubles."<sup>21</sup> In other words, hard currency trade is sealed off from the normal workings of the system and presumably is a small portion of total trade among communist countries. A Polish economist reported that in 1964-70, 10 to 25 percent of intra-CEMA trade was settled in hard currency.<sup>22</sup> The extremely broad range of this estimate implies considerable lack of information about such trade or lack of a clear or agreed upon definition of it or both.

Specific hard currency trade totals can be derived for only one country, Hungary. This can be done by subtracting figures the Hungarians publish for "ruble trade" from the Hungarian trade category labelled trade with socialist countries. The residual can be considered, or defined, as hard currency trade with socialist countries. We made such calculations for 1971-75, as shown in Table 2 below:

TABLE 2.—HUNGARIAN HARD CURRENCY TRADE WITH SOCIALIST COUNTRIES 1971-75<sup>1</sup>

[Millions of U.S. dollar]

Year:	Exports	As percentage Socialist exports	Imports	As percentage Socialist imports	Balance	Balance as percentage of total hard currency turnover
1971.....	\$59.4	3.5	\$105.3	5.5	-\$45.9	27.8
1972.....	49.1	2.2	84.6	4.1	-35.5	23.7
1973.....	203.3	6.9	133.3	5.5	70.0	20.8
1974.....	342.1	10.3	291.3	9.4	50.8	8.0
1975.....	398.7	9.4	273.8	5.9	124.9	18.6
1971-75.....	1,052.6	7.0	888.3	6.2	164.3	7.0

<sup>1</sup> See Appendix 2 for derivation of data in this table.

Source: "Statistikai Havi Kozlemenek," various issues.

<sup>20</sup> Not all intra-CEMA hard currency trade need be "above Plan." According to Paul Marer, citing Carl H. McMillan, ". . . when an Eastern European country is committed under an East-West cooperation agreement to payment in convertible currency for royalties or parts and service, it will undoubtedly press for hard currency payment when the resulting products are exportable." (See Paul Marer, "Prospects for Integration in the Council for Mutual Economic Assistance (CEMA)," *International Organization*, Volume 30, Number 4, Autumn 1976, Footnote 21, p. 647.) However, given the tiny share of such exports in intra-CEMA trade at this point, the amount of hard currency involved is probably exceedingly small.

<sup>21</sup> Ausch, "Theory And Practice of CMEA Cooperation," p. 184.

<sup>22</sup> J. Rutkowski, "Polish-USSR Financial Relations and Multilateral Cooperation Among CMEA Countries," *Sprawy Miedzynarodowe*, November 1972. Cited in Mark Allen, "The Evolution of the International Bank for Economic Cooperation, 1964-1973," (unpublished paper, Washington, D.C., 1975).

The above figures suggest that some expansion of Hungarian intra-CEMA hard currency trade took place during the five year period. However, in 1975, there was a decline—slight for exports, steep for imports—in the share of Hungary's total socialist trade accounted for by hard currency transactions.<sup>23</sup> Furthermore, even at the 1974 peak, the ratio of hard currency trade to total trade was relatively low, about 10 percent.

One should be extremely wary, however, of generalizations drawn from the Hungarian data about overall intra-CEMA hard currency trade. To begin with, the findings in Table 2 may not be representative of the corresponding ratios for other CEMA countries (although there is no reason to assume that they are not). Secondly, the data may understate the actual amount of Hungarian hard currency trade, since some hard currency transactions that involve explicit hard currency expenditures are excluded from the residual because of the way in which the transactions are registered. For instance, Hungarian purchases in a "third market" of goods for delivery to the Soviet Union, though in fact a hard currency payment to the USSR, might be listed as either a Hungarian or a Soviet import from a Western country and not be included in "socialist trade." On the other hand, as a Western economist has pointed out, the data could overstate actual hard currency trade to the extent that they include transactions involving "re-exports of commodities acquired or disposed of in nonsocialist markets."<sup>24</sup>

A further source of uncertainty is the fact that what constitutes the residual in intra-CEMA trade is not known. Table 2, for example, may include only transactions in which hard currency balances held in financial institutions such as IBEC and Western banks were transferred between Hungary and other CEMA countries. It could, however, include transactions in which goods were exchanged at "hard currency prices," i.e., realistic, current world market prices, but in which no explicit transfers of funds took place. The utility of the reported data depends, therefore, not only on their accuracy but on whether one believes that the latter category should be defined as hard currency trade.

Despite these difficulties, the available evidence, what there is of it, does imply that hard currency trade is a relatively small portion of total intra-CEMA trade, or, at a minimum, it does not refute this hypothesis.

The lack of rapid growth in intra-CEMA hard currency trade indicates, we believe, that the intra-CEMA trading system is not undergoing fundamental change, in the direction of multilateral trade within CEMA and the convertibility of CEMA currencies with each other and with the currencies of noncommunist countries. In our view, hard currency trade would only lead to genuine reform if it rose to a very high proportion of intra-CEMA trade—with the distinction between hard and soft goods eliminated. However, erasure of this distinction would not be a sufficient condition for expanded intra-CEMA multilateralism and convertibility.

<sup>23</sup> Possibly, the introduction of more realistic price relationships in 1975 was responsible for the decline. This is of course a highly speculative explanation.

<sup>24</sup> Jozef M. P. Van Brabant, "Bilateralism and Structural Bilateralism in Intra-CEMA Trade" (Rotterdam, Rotterdam University Press, 1973), fn. 32, p. 278.

It should be made clear that we define hard currency trade to include not simply transactions involving explicit transmission of hard currency funds from one CEMA country to another but all transactions including barter-type or transferable ruble denominated transactions that are conducted at exchange ratios that truly reflect prevailing world market price relationships. Such transactions have, or could have, the effect of linking Eastern European economies more closely with the West. For example, if one CEMA country trades oil to another CEMA country in return for coal at realistic prices, the oil exporter need not physically import the coal. If it so desires, it could order the coal shipped to a Western buyer for hard currency, to be used as the oil exporter chooses.

Such transactions in isolation do not, however, alter the bilateral character of intra-CEMA trade. Payments between CEMA partners are, in effect, still flowing in bilateral channels. But if all or most intra-CEMA transactions were conducted on the basis of current, world market prices, then the distinction between intra-CEMA trade and trade of CEMA countries with the rest of the world would be significantly blurred. There would be no terms of trade difference between intra-CEMA, and CEMA countries-Western trade, and intra-CEMA trade thus would cease to be of economic benefit to those CEMA countries that now enjoy a relative terms of trade advantage.

It is therefore possible that trading at current world prices within, as well as outside of, CEMA would stimulate a marked increase in intra-CEMA multilateralism. The disincentive to hold transferable ruble balances growing out of transactions with one country for use in other countries would be reduced if the distinction between hard and soft goods ended. A consequence of this, particularly for Eastern Europe, where trade accounts for a substantial proportion of economic activity within CEMA, could be the creation of considerable pressure to allow domestic prices to more accurately reflect the interplay of production cost and demand factors, in order to facilitate more rational decisions on what to trade and in what amounts.<sup>25</sup> Realistic domestic prices in turn could clear the way for realistic exchange rates and convertibility within CEMA and with the rest of the world.

None of this need happen, however, just because CEMA trade prices accurately reflected world prices. Bilateralism might still persist because of the reduction in uncertainty, discussed in Section II above, that it provides to central planners. The commodity inconvertibility that accompanies bilateralism would therefore remain as a disincentive to accumulating TR balances. Furthermore, even with trade conducted at current world prices, it would remain feasible (though, of course, still economically inefficient) to maintain a system of disequilibrium domestic prices, with the attendant separation of trade prices from domestic prices, meaningless official commercial exchange rates, and infeasibility of convertibility. Bilateral barter trade could continue to predominate within CEMA, and trade with the West could continue to be conducted exclusively, with Western currencies, with no role for the currencies of the CEMA countries.

In any event, trade within CEMA with all or most transactions occurring at genuine world market prices—that is, with the distinc-

<sup>25</sup> Please note the assumption stated above that trade within CEMA, even with domestic prices determined by market forces, would generally be conducted at world prices because of the small role CEMA countries play in world trade as a whole.

tion between hard and soft goods obliterated—seems most unlikely in the foreseeable future. This would be true even if the theoretical and technical problems involved in pricing differentiated goods (such as machinery) could be solved, for example, by introducing suitable discounts to allow for quality differences between Eastern items and their Western counterparts. One reason is that many CEMA countries would find the termination of the distinction painful. Even when world price relationships have remained relatively stable, CEMA trade price relationships have been distorted in terms of world prices, primarily because of the “overpricing” of manufactured goods noted earlier in this paper. Countries that are mainly raw materials importers and manufactured goods exporters would thus lose what amounts to the subsidy they now enjoy in intra-CEMA trade.

To some extent, this subsidy may be less than it was formerly, but it appears to remain substantial. The Soviet Union, for example, has reduced the proportion of fuels and raw materials in its exports to Eastern Europe from 58 percent in 1965 to 55 percent in 1970 to 49 percent in 1974. (In 1975, the share rose to 61 percent, but the change was due in large measure to the price rises in 1975 and therefore must be discounted.) The share of finished manufactures in Soviet imports from Eastern Europe, on the other hand, was actually higher in 1974 than in 1965—67 vs. 64 percent. (The proportion in 1975 was 65 percent.) The ratio of Soviet exports of fuels and raw materials to Eastern Europe to Soviet imports of these items from Eastern Europe remained stable from 1970 to 1974 (4.62 in 1970, 4.54 in 1974). This in fact represented an increase from the 3.64 ratio in 1965. The ratio of Soviet exports to imports of finished manufactures trended upward from the mid-1960's, from .27 in 1965 to .45 in 1974. The rise in 1974 was particularly sharp, from .39 in 1973. The ratio fell back in 1975, however, to .39. None of these changes suggests any alteration of the Soviets' basic role as a supplier of raw materials to, and buyer of finished manufactures from, Eastern Europe.<sup>26</sup>

It is worth noting, incidentally, that greater balance of exports and imports within different categories of goods would not mean that exchange ratios reflected realistic prices or that there had been a move away from bilateralism. It would represent, rather, a shift toward conducting intra-CEMA trade on all separate soft goods and hard goods tracks within all continuing bilateral framework.

Sweeping introduction of realistic price ratios would damage the standard of living of much of Eastern Europe, where trade plays a far larger role in the economy than in the USSR, by pushing the terms of trade to the disadvantage of raw-material poor countries. The damage could be mitigated or delayed by the extension of credits through CEMA institutions to those CEMA countries that would suffer from the change in price relationships. However, with the distinction between hard and soft goods gone, rising intra-CEMA debt would be the equivalent of hard currency debt for the affected countries. Hard currency debt has already risen to very high levels in

<sup>26</sup> The above figures were computed from data in Paul Marer, “Prospects for Integration in the Council for Mutual Economic Assistance (CMEA),” Table I, p. 638 and (for the 1975 figures) from *Vneshnyaya Torgovlya SSSR v 1976 g.*

Eastern Europe, and debt servicing threatens to become a very serious problem.<sup>27</sup>

Opposition to across-the-board introduction of realistic world prices into intra-CEMA trade might, however, be based less on the threat of economic hardship than on more directly political considerations. As noted above, such a development would weaken CEMA's position as a distinct economic entity, something that might well be unacceptable to some CEMA members, notably the USSR. Furthermore, the possibility that it could stimulate greater economic efficiency and decentralization in Eastern Europe would pose a threat to communist party direction of economic policy, which would severely inhibit movement toward the comprehensive application of realistic world prices. Many political leaders in CEMA countries—again, particularly those in the USSR—would view the accompanying diminution of centralized control over economic affairs not only as ideologically offensive but, more to the point, as a drastic threat to their power.

### APPENDIX I

#### TERMS-OF-TRADE EFFECTS OF CHOOSING DIFFERENT TIME INTERVALS AS WORLD PRICE REFERENCE PERIODS

Table 3 below indicates the impact on the USSR's "terms of trade" vis-a-vis Eastern Europe of switching to 1970-74 and 1972-74, from 1965-69, averages of "world prices" as the reference interval for intra-CEMA trade prices.

TABLE 3.—TERMS-OF-TRADE EFFECT ON SOVIET UNION VIS-A-VIS EASTERN EUROPE OF CHANGING WORLD-PRICE REFERENCE PERIOD  
[1965-69=100]

	U.N. price 1970-74	Indices, 1972-74	1974 value, Soviet ex- ports or imports (share of total)	U.N. indices multiplied by column 3	
				1970-74	1972-74
<b>Exports:</b>					
Manufactures.....	135	149	0.5675	77	85
Food.....	158	189	.0502	8	9
Agricultural nonfood.....	151	183	.0920	14	17
Fuels.....	243	325	.1973	48	64
Metal ores.....	134	152	.0496	7	8
Nonferrous metals.....	131	143	.0434	6	6
Total.....				160	189
<b>Imports:</b>					
Manufactures.....	135	149	.8422	114	125
Food.....	158	189	.0678	11	13
Agricultural nonfood.....	151	183	.0398	6	7
Fuels.....	243	325	.0241	6	8
Metal ores.....	134	152	.0261	4	4
Total.....				141	157

<sup>1</sup> Sum of column.

Note: Terms of trade: 1970-74: 100 (160/141)=113; 1972-74: 100 (189/157)=120.

Sources: Vneshnyaya Torgovlya SSSR v 1975 g. U.N. Monthly Bulletin of Statistics, March 1973, p. xv-xvi; March 1976, p. xx-xxi; and December 1976, p. xxiv-xxvi.

<sup>27</sup> Eastern European countries already shun hard currency debt within CEMA. Since 1973, CEMA members evidently have been required to pay off 10 percent of the amount of their trade deficits within CEMA above some specified level in hard currency. The effect has apparently been to intensify the striving among potential debtors to achieve bilateral balance in order to avoid hard currency outlays. Even the most limited convertibility within CEMA evidently has a trade-shrinking instead of a trade-expanding impact. See Lawrence J. Brainard, "The CEMA Financial System and Integration," (Unpublished paper delivered at Conference on Integration in Eastern Europe and East-West Trade, Indiana University, Bloomington, Indiana, October 31, 1976).

The above results were derived as follows: Annual UN index numbers of world export prices for various commodity categories were averaged to yield a single value for each category for each of the three periods.<sup>28</sup> These values were then converted to index numbers with 1965-69 as the base period (equal to 100), by computing the percentage change from 1965-69 to 1970-74 and 1972-74. The resulting index number for each category was then weighted by the value of Soviet exports and imports in 1974 to compile indices for both exports and imports as a whole. The export indices were then divided by the corresponding import indices to yield the net barter terms of trade.

The terms of trade changes when the fuels component is excluded were computed as follows:

$$\begin{aligned} \text{Export index 1970-74} &= (160-48)/100(1-.1973) = 140. \\ \text{Export index 1972-74} &= (189-64)/100(1-.1973) = 156. \\ \text{Import index 1970-74} &= (141-6)/100(1-.0241) = 138. \\ \text{Import index 1972-74} &= (157-8)/100(1-.0241) = 153. \\ \text{Terms of Trade: 1970-74: } &100(140/138) = 101. \\ &1970-72: 100(156/153) = 102. \end{aligned}$$

It should be stressed that the indices above are intended only to suggest the importance that oil price changes must have had in influencing the Soviet decision to switch from 1965-69 to a new reference period. The UN indices were used because they are indicative of movements in world prices, not because there is any evidence that CEMA countries actually rely on them in negotiating trade prices. The highly aggregated character of the commodity groups to which the UN price indices apply is another reason why the above measures of changes in Soviet-Eastern European terms of trade must be considered very rough. Fuels, for example, include components besides oil. The aggregation problem is most serious with respect to the manufactures group, which consists of an extremely heterogeneous collection of manufactures and semi-manufactures corresponding to SITC Classification groups 5 through 8. (These, in turn, are roughly equivalent to Soviet Trade Classification groups 1, 3, 4, 9, and parts of 2.)

We also constructed similar terms of trade indices for later periods, for which UN price indices for individual commodities were available. We were thus able to compile indices based on far more disaggregated components, with separate indices for such commodities or commodity groups as oil, coal, lumber, cotton, wheat, wine, iron ore, aluminum, copper, zinc, and lead. Indices for the same periods using the more aggregated components shown in Table 3 were also compiled. In general, terms of trade indices using the more aggregated components did not differ much from the counterpart indices based on more disaggregated data. However, we were unable to disaggregate the manufactures price indices. Therefore, the reliability of the terms of trade indices based on the more disaggregated components may not be significantly greater.

The additional indices were intended to gauge the effect on the terms of trade of using current world prices in 1975 and 1976 instead of lagged averages, as was actually done. (For 1976, UN price indices were available for the first three quarters only.) Calculations were made including oil and then excluding it. The

<sup>28</sup> 1970 was the base year for all annual index values except 1965 and 1966, for which 1963 was the base year. To compute the 1965-69 average, the 1965 and 1966 values were converted to the 1970 base by computing percentage changes from 1965 and 1966 to 1967 for the values using 1963 as the base year and then applying these percentage changes to the 1967 value using 1970 as the base year.

results, which again underscore the importance of oil, are summarized in Table 4 below.

TABLE 4.—TERM-OF-TRADE EFFECT ON U.S.S.R. VIS-A-VIS EASTERN EUROPE OF USING CURRENT INSTEAD OF LAGGED WORLD MARKET PRICES  
[1970-74 or 1972-74 or 1971-75=100]

Period and type of index	Term of trade	
	1974 weights <sup>1</sup>	1975 weights <sup>1</sup>
1975/1970-74:		
Disaggregated	112	117
Aggregated	112	122
Disaggregated, without oil	100	100
Aggregated, without fuels	98	98
1975/1972-74:		
Disaggregated	109	114
Aggregated	104	110
Disaggregated, without oil	102	103
Aggregated, without fuels	95	98
1976/1971-75 <sup>2</sup> :		
Disaggregated	109	112
Aggregated	108	112
Disaggregated, without oil	102	103
Aggregated, without fuels	100	100

<sup>1</sup> Weights were appropriate values of Soviet trade in 1974 and 1975.

<sup>2</sup> 1976 data used were for first 3 quarters only.

Sources: Vneshnyaya Torgovlya SSSR v 1975 g. "U.N. Monthly Bulletin of Statistics," March 1976, p. xx-xxi and December 1976, p. xxiv-xxvi.

## APPENDIX 2

### DERIVATION OF DATA ON HUNGARIAN HARD CURRENCY TRADE WITH SOCIALIST COUNTRIES

In 1976, Hungary began to furnish breakdowns of its foreign trade between socialist and non-socialist countries and between ruble and non-ruble accounts. Estimates of hard currency trade with socialist countries from 1971-75 were obtained by subtracting total ruble accounts, both for imports and exports, from socialist country totals, and converting the difference, expressed in devisa forints, into dollars at the official rates of exchange that prevailed during each year. These were: 1971—\$1=11.74 dft.; 1972—10.81 dft.; 1973—9.5 dft.; 1974—9.15 dft.; 1975—8.6 dft. Although Yugoslavia is listed as a socialist country, its imports and exports were excluded from the socialist country total because it was felt that some, if not all, of Hungarian-Yugoslav bilateral imbalances from 1971-75 were settled in convertible currency.

The data thus derived and presented in Table 2, should be qualified to take account of Brainard's observation that Hungarian imports are listed c.i.f. and exports f.o.b. He notes that ruble statistics for Hungarian imports in the CEMA yearbook are expressed in contract prices and so provide a surrogate computation for f.o.b. prices. The results obtained naturally reduce estimated hard currency imports below those given in Table 2, reducing the deficits in 1971-72 and enlarging surpluses in 1973-75.<sup>29</sup> The discrepancies, however, are not large, and do not alter fundamentally the conclusions arrived at in this paper.

<sup>29</sup> See Brainard, "The CEMA Financial System and Integration."

# THE COUNCIL OF MUTUAL ECONOMIC ASSISTANCE IN 1977: NEW ECONOMIC POWER, NEW POLITICAL PERSPECTIVES AND SOME OLD AND NEW PROBLEMS

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## I. INTRODUCTION

This paper attempts to provide an overall, perspective appraisal of the Council of Mutual Economic Assistance (CEMA) in the spring of 1977, nearly 30 years after it was organized in Moscow as a Stalinist riposte to the Marshall Plan.

Since that time the economies of the Soviet Union and the countries of Eastern Europe have grown and expanded and become more complex, as has the CEMA organization itself. Two principles, however, which were valid in 1949 remain unchanged today. They are (1) that

\*It should be understood that the views expressed in this paper are those of the author and do not necessarily represent the position of the Bureau of East-West Trade, Department of Commerce, JEC, or the U.S. Government.

CEMA is composed of a group of relatively small countries and a superpower, the USSR, and (2) that the ultimate, long-term objective of the organization is the achievement of a highly organized, integrated economic bloc—even though there appears never to have been full agreement on just how and when this integration will be accomplished and despite the fact that the principle of sovereignty and independence of member states is a cardinal feature of the CEMA statutes. Consequently, it is important to keep in mind that the word “CEMA” in many cases is equivalent to the word “Soviet” because of the strong identity of interests and objectives.

In light of the above it is interesting to try to evaluate how much success has been achieved in recent years in accomplishing CEMA goals. What gains have been made, especially following the announcement in mid-1971 of the extensive and ambitious plans for a twenty-year Complex Integration Program (1970–1990)? And what has been the impact of the worldwide economic upheavals caused by the energy crises of 1973–1974 and the subsequent shock-waves of acute inflation in the Industrial West?

It is important, of course, to estimate these gains, as well as any difficulties, as they are viewed from Moscow and not from London, Washington or Bonn. CEMA is not an “open organization.” A large volume of important economic data on member countries and their relations within CEMA—ranging from such items as gold and hard currency reserves to details of multilateral agreements—is unpublished and impossible to obtain. Consequently, it is only possible to delineate some of the most important developments on the basis of the sparse material occasionally published in the Soviet and East European press or in official CEMA publications. This material nevertheless presents a picture of a much more complex and more active organization today than in the 1950’s and 1960’s, and one that is continuing to move slowly but steadily forward.

## II. ECONOMIC GAINS: TIGHTER INTEGRATION THROUGH EXPANDED INFRASTRUCTURE AND AN INCREASED EAST EUROPEAN DEPENDENCE

Over the past ten years, and especially since 1971, a series of developments have taken place which have resulted in a stronger CEMA organization and a much more extensive infrastructure for integration activity. Some of these developments have received very little or only marginal attention in the West and some have been noted only in Western academic or business circles concerned with East European and Soviet economic matters. Because they are often very technical and obscure, their role in the organization goes unnoticed. The following are some of the more important.

### (A) *Deterioration in East European Terms of Trade With the USSR*

Much has already been written about the unexpected and sudden CEMA Executive Committee decision early in 1975 to increase intra-CEMA foreign trade prices, despite the fact that the next scheduled intra-CEMA price revision was not due until 1976. The actual and widely publicized reason (in the West) was Soviet realization that the violent increases in world energy and raw material prices triggered by the energy crisis of 1973/74 were causing the USSR to lose too much in

exporting oil, natural gas and raw materials to East European CEMA countries at bargain-basement 1966 rates. Prices had to be brought into line and, accordingly, the prices of a large number of goods—raw materials, manufactures, agricultural products as well as energy—were raised substantially.

But the big jump was in oil, for which five of the six East European CEMA members (Romania excluded) were almost entirely dependent on the USSR. The price of crude oil in intra-CEMA trade moved upward by about 130 percent, although this resulted in a price which was still quite a bit less than East European countries must pay in Western markets. Nevertheless, since oil, along with natural gas and industrial raw materials, played a pivotal role in Soviet exports to Eastern Europe, the price increases for these commodities inevitably resulted in an immediate deterioration—estimated at about ten percent—in the terms of trade of the six East European CEMA members with the USSR.<sup>1</sup> In simple terms, the six East European CEMA countries suddenly found themselves having to increase their exports to the Soviet Union in order to maintain the same level of imports from the Soviet Union that they had been receiving in recent years.

All available evidence indicates that this deterioration in terms of trade has continued. The prices which the smaller CEMA countries are paying for Soviet raw materials and products are still generally less than they would be paying to non-communist suppliers, and they also have the considerable advantage of not having to pay in hard currency, but they must nevertheless pay *more* in exports of machinery, consumer goods, food products and services than they were paying before the 1973 energy crisis.

The actual nuts-and-bolts impact of this terms of trade loss for small East European countries is not immediately visible. Obviously, it means increased strains on their economies, some decline in standards of living, a reduced rate of economic growth. Here and there, however, some precise information, some hard statistics have become available.

Thus, in December 1976 a special symposium on the GDR economy conducted by a West German research institute (*Deutsche Institut für Wirtschaftsforschung*, Berlin West) attributed the current slowdown in the GDR's economic growth rate primarily to the deterioration in its terms of trade with the USSR. The symposium found that the GDR had three ways of meeting this situation—increasing debt, restricting imports and raising exports. All three had been done, along with a restructuring of the economy at the expense of the domestic market. In 1975 the GDR had experienced its largest deficit ever—VM 4.2 billion—due mainly to increased Soviet energy and raw material prices. It was also found that efforts to increase exports to the USSR had reduced available goods for export to Western hard currency markets.

Another insight into the impact of the higher CEMA foreign trade prices on the GDR appears in some official GDR statistics for economic performance in 1976 which were released in January 1977.

<sup>1</sup> For a thorough and expert discussion of this subject see "Developments in Soviet-Eastern European Terms of Trade, 1971-75" by Martin J. Kohn, published in "Soviet Economy in a New Perspective," Joint Economic Committee, Congress of the United States, Oct. 14, 1976.

They show that GDR national income grew by only 3.7 percent in 1976, the lowest rate since 1963. The official explanation of the GDR statistical administration was "difficulties in agriculture and in foreign trade." And a brief reference to foreign trade performance included the comment that GDR foreign trade commitments to the USSR and other CEMA countries had been met and that "additional foreign trade expenditures by the GDR were necessitated by changes in CEMA prices." It was also stated that inflation in the West had made the GDR's imports from that area more expensive.

It is perhaps significant that, in contrast to previous years, official 1975 GDR foreign trade statistics were lumped together—exports and imports—into an overall "turnover" figure which makes precise analysis more difficult. Whether this was done deliberately in order to conceal the difficulties which the GDR may be having in its trade with the USSR can only be conjectured.

*(B) East European Participation in Soviet Raw Material and Energy Development Projects*

The large-scale, "multilateral" CEMA development project has become an increasingly familiar phenomenon in official CEMA communiqués and reports over the past several years. In simplest terms it involves extensive East European investment and assistance in the extraction, processing and transport of Soviet raw material and energy resources. This is natural wealth which makes up part of the impressive figures on estimated Soviet reserves of energy and raw materials but it is still in the ground in remote areas of the country. Each East European participant agrees to provide specified items of capital equipment, e.g. railway cars, tractors, steel rails, bulldozers, prefabricated housing, and will receive repayment in the product of the project over a specified period—usually ten to twenty years. East European contributions may also include skilled labor and technology. The price of raw material or energy received is fixed at a figure below the world market price.

The multilateral projects are massive contracts which are often dramatic in their scope and pioneering ambience. As such they provide good subjects for publicity about fraternal socialist cooperation, the advantages which accrue to the East European countries from membership in CEMA and, by implication, from the benevolent assistance of one of the richest countries in the world, the USSR.

The outstanding multilateral project to date is Orenburg. The Orenburg natural gas pipeline is now under construction over a more than 1200 mile route which extends from the area of gas condensate deposits near Orenburg in the southern Urals to the Czechoslovak-Soviet frontier near Uzhgorod in the Carpatho-Ukraine. When completed during the last quarter of 1978 it will be the largest natural gas pipeline in the world. The Orenburg participants are the five CEMA East European countries and the USSR, with Poland, the GDR, Czechoslovakia, Bulgaria and Hungary each being responsible for a specific sector of the pipeline and the Romanians responsible for the import from Western Europe of one or more gas scrubbing plants being assembled at Orenburg for the conversion of gas con-

densate into natural gas.<sup>2</sup> The total value of the project is about six billion rubles (approximately eight billion US dollars) and according to current plans the East European participants will eventually receive 15.5 billion cubic meters of natural gas each year for much less than the world market price. This may cover as much as one-fifth of CEMA East European natural gas requirements in the year 1980.

The number of CEMA multilateral development projects has been increasing steadily and there have been reports that as many as 15 or 20 are planned. In each case the project is first presented at one of the annual CEMA Council meetings where it is approved by those countries wishing to participate. A series of bilateral agreements are then negotiated between each participating country and the USSR. These may take a year or more to conclude and specify just what equipment, technology, and manpower each participant will provide and how much raw material or energy it will receive in return. Although the value of investments and the prices of the raw material or energy product are not published, it appears that they are based on special formulae which are closely related to intra-CEMA foreign trade pricing and, accordingly, make use of world market price indexes.

The following summarizes the major CEMA multilateral projects which have been announced to date. Except where noted the participants, along with the USSR, are the six East European CEMA members.

Name and location	Product	Remarks
Orenburg pipeline (from Orenburg in southern Urals to Czechoslovakia-Soviet frontier near Uzhgorod).	Natural gas; also sulfur as byproduct from conversion of gas condensate.	EE participants to receive 15,500,000,000 m <sup>3</sup> of gas per year starting last quarter of 1978. Additional gas to be exported to Western Europe by U.S.S.R. and some to be used by U.S.S.R. in areas along pipeline route.
Ust Ilmsk (on Angara River north of Bratsk in eastern Siberia).	Cellulose.....	Czechoslovakia not participating. In addition to EE/CEMA investment, important role being played by French and Swiss firms.
Kiyembaev (southern Urals).....	Asbestos.....	East European participants to receive between 40,000-50,000 tons of asbestos per year. Exports may cover about 1/3 of EE requirements in 1980.
Kursk (rich iron ore deposits covering many square miles near city of Kursk about 300 mi south of Moscow in R.S.F.S.R.).	Iron ore, iron and steel pellets, steel.	Romania reportedly not a participant; also reportedly delayed until 11th 5-yr plan beginning 1980. FRG firms now building 1 sector near village of Starly Oskol' which will be 1 of the largest metallurgical complexes in world.
Norilsk (northwestern Siberia near Yenisei River).	Copper and nickel.....	Financed by CEMA International Investment Bank credit but few details available.
Vinnitsa-Albertyrsha powerline (from central Ukraine to Hungary).	Electric power.....	A 750-kV line which will increase transfer of power from European part of U.S.S.R. to Eastern Europe.
Cuba (exact location not known).....	Nickel ore.....	First multilateral project not completely or partially on Soviet territory. Announced in 1976. Few details available.

Even a superficial analysis of these multilateral contracts indicates that they increase East European dependence on the Soviet Union both as a source of raw material and energy supply and as a market for East European equipment.

The source dependence involves a long-term, "locked in" regular acquisition of essential raw materials and energy at *very* favorable prices. Thus, the cellulose shipped to Hungary from Ust Ilmsk will

<sup>2</sup> The Romanians have purchased at least one plant from France for conversion of gas condensate into natural gas. A number of articles in East European newspapers have indicated that Bulgaria, Hungary and Czechoslovakia have been unable to fully meet the manpower requirements for construction of their sectors of the pipeline. Consequently, the USSR is providing the necessary skilled labor with wages being paid by the respective East European countries. Each country is also responsible for construction of the necessary compressor stations to be erected in its sector, most of which are reportedly being imported from the West.

arrive regularly through the year 1990 at prices well below those which Hungary might have to pay to nearby Austria or to Scandinavia. Furthermore, payment will be in Transferable Rubles or through some other clearing account mechanism, whereas Austrian or Scandinavian sellers would demand hard currency. After 1990, when the USSR will presumably have paid back the Hungarians for their investments in Ust Ilimsk, the Hungarians will be required to "renegotiate" their contracts for Ust Ilimsk cellulose. Presumably this will result in payment of some higher prices but prices still below those on the world market.

The market dependence, although perhaps less extensive, can nevertheless be significant. For each project the EE participant is required to divert an important section of its industry to the production of equipment for its contribution. These diversions presumably extend over several years. And they may also, as in the case of Orenburg, require substantial allocations of skilled labor and managerial personnel.

Finally, the East European contribution can also involve diversions from hard currency reserves for purchase of components which must be imported from the West. One outstanding example has been the Romanian purchase of gas condensate processing plants from France for use at Orenburg. In another instance, Hungary has been buying American bulldozers for use in the construction of its section of the Orenburg pipeline.

The net result then, is a "compulsory", predetermined diversion of trade eastward which must inevitably reduce by a fixed percentage the quantity of resources which would normally be available for East European trade with the West. And this diversion is a long-term, inelastic affair tending toward permanency—a definite gain for the CEMA objective of integration and interdependence.

(C) *The CEMA Banks: Sophisticated Financial Support for Trade and Development*

As recently as five or six years ago mention of the two CEMA Banks—the International Bank for Economic Cooperation (IBEC) and the International Investment Bank (IIB) would have meant very little in Western financial circles.

The IBEC was established in 1964, primarily to facilitate multi-lateral trade among the CEMA countries through the use of the Transferable Ruble (TR), a widely publicized device which is a unit of account for clearing operations and not a new form of currency. The IIB was established six years later, in 1970. Its announced purpose was to provide long-term development loans in both Transferable Rubles and hard currency for capital projects which would benefit two or more CEMA countries.

In the first few years after they were established both banks attracted relatively little attention, especially since their hard-currency operations were limited. Now, in the mid-1970's, the situation is much changed. Both banks are increasingly active in Western hard currency markets, both are well known in Western international banking circles and they have been increasingly important in the promotion of intra-CEMA trade and the development of CEMA infrastructure.

The IBEC's main emphasis has been on intra-CEMA trade which it has facilitated through the use of the Transferable Ruble as a clearing mechanism. Despite the theoretical possibilities for the use of the TR in multilateral clearing, almost all intra-CEMA trade handled by IBEC in recent years has been bilateral.

A much more interesting development, however, has been IBEC's strong upward movement in hard currency operations. From its inception IBEC has always assisted CEMA countries in East-West trade transactions, and has extended short-term credits in both TR's and hard currency. Over the past five years the annual volume of IBEC hard currency operations has increased very sharply, rising from 28 percent of total operations in 1971 to 40 percent of all operations in 1975. The reasons for this have been the strong increase in Soviet and CEMA East European trade with the Industrial West and also what is believed to be a significant increase in intra-CEMA hard currency trade. The latter includes East European purchases at world market prices of certain quantities of Soviet energy and raw materials in excess of the normal allocations which they receive for Transferable Rubles through regular bilateral trade agreements. And it also includes special purchases of manufactures and raw materials arranged between CEMA East European countries. The exact scope and details of this interesting aspect of intra-CEMA trade are almost impossible to determine, but some experts believe that it is growing at a much faster rate than regular trade carried on through clearing and bilateral agreements.<sup>3</sup>

Another aspect of IBEC's growing involvement in the world of hard currency has been its increased activity in short and medium-term Eurodollar borrowing for CEMA countries, and its participation, along with some of the major Western banks, in syndicate Eurodollar loans to developing countries.

The CEMA International Investment Bank has become a significant, active force both for development of intra-CEMA infrastructure and in expansion of CEMA trade and financial relations with the Industrial West. Since its commencement of operations early in 1971 the IIB has extended approximately 50 credits for industrial development projects which meet the criteria of promotion of the "international socialist division of labor" by benefiting two or more CEMA countries. These have ranged from a wool washing plant in Mongolia and a citrus fruit canning plant in Cuba to modernization of the Hungarian railway system and the huge Orenburg natural gas project.

As with IBEC, the IIB involvement in hard currency operations has increased dramatically. The Bank's capitalization now includes a sector of 30 percent in convertible currencies and gold (capitalization on Jan. 1, 1976 was about TR 1.1 billion or \$1.4 billion) and since 1973 it has been very active in Western Eurodollar markets. Eurodollar loans for purchase of Western-made pipe and other equipment for Orenburg, obtained by IIB from Western banking syndicates, have totalled over one billion dollars and there are indications that additional borrowing will take place in 1977.

<sup>3</sup> For further discussion of the expanding role of hard currency in IBEC and IIB operations, see David Lascelles, *Financial Times*, London, "COMECON's Potential," a paper presented at the NATO Colloquium on COMECON, Brussels, March 1977. See also, "Operation and Importance of the IBEC and the IIB, and the COMECON Quest for Credits," paper prepared by Dr. H-D. Jacobsen, Stiftung Wissenschaft und Politik, Ebenhausen, also presented at the NATO Colloquium.

In keeping with the objectives of CEMA integration, therefore, the two CEMA banks appear to be playing a useful and effective role. In addition to providing centralized mechanisms for such operations as trade clearing and project financing, they are becoming valuable intermediary agencies for rounding up Western financial support—through Eurodollar and other borrowing—for CEMA multilateral projects. In this latter operation they represent the entire CEMA bloc in dealing with Western financial institutions and can—presumably—achieve more than individual East European national banks or even the Soviet Union's *Vneshtorgbank* might be able to accomplish if it were acting alone.

#### (D) *Centralized Plan Coordination*

One of the main aims of the Complex Program is complete coordination of all the national economic plans of all member countries. Work on this grandiose and tremendously involved scheme was, however, not begun until the year before the 1976–1980 five-year plan period. In essence, what is required is the coordination of each of the plans of each of the nine member countries with the opposite-number plans of all the others. Thus, the GDR plan for heavy machine building would be coordinated with the Bulgarian plan for heavy machine building, the Soviet plan for heavy machine building, the Polish plan for heavy machine building etc.<sup>4</sup>

Despite numerous articles and exhortations in the Soviet press, it appears that the plan coordination program still has some way to go. There seems to have been some initial progress in coordination of foreign trade plans. During 1976 announcements of plan coordination for five-year foreign trade plans by different CEMA countries appeared in the Soviet press and there were reports of numerous meetings of foreign trade plan coordination groups in different capitals.

The integrational impact of plan coordination is obvious. At minimum it limits the flexibility which individual CEMA East European countries can have for trade with countries outside of the CEMA bloc. And there have already been some indications of this in the announcement of long-term commitments for exports to other CEMA countries. In Hungary, for example, the reported conclusion of several long-term contracts for the export of vegetables, fruits, and other foodstuffs to the USSR could reduce Hungary's options for the export of certain portions of its agricultural output to Western countries in future years.

#### (E) *The CEMA "International Economic Organizations": Incipient Supranationality?*

Since 1971 there has been a significant increase in a new form of specialized intra-CEMA organization. These are generally referred to as "international economic organizations". They are regularly and understandably confused with the approximately 25 permanent

<sup>4</sup>The potentially very powerful CEMA Planning Committee (Committee on Cooperation in Planning Activities) consists of the Planning Ministers of all member countries led by USSR GOSPLAN Chairman and Vice Premier N. K. Baybakov. At the 27th Session of the CEMA Council in June 1973 it was directed to begin work on increasing intra-CEMA cooperation. At the 29th Council meeting in 1975 the committee submitted a draft proposal for a coordinated, CEMA-wide plan. The full details of this document have not yet been published.

Standing Commissions which cover specific economic sectors, such as geology and coal industry, and date back to the early 1950's, and the CEMA Intergovernmental Organizations, such as "Interkhim" (chemical industry) and "Intermetal" (steel production, special types of steel).

The "international economic organizations" (IEO's) were officially launched at the 61st meeting of the CEMA Executive Committee on January 23, 1973. Their objective is to establish specialized cooperation and coordination in industrial production at the enterprise level and across national frontiers. In some respects the IEO's might very roughly be described as socialist multi-national corporations. Thus, Interelektro, established in 1974, is concerned with the coordination of production of electric motors and various types of electric equipment, and membership apparently includes plants in all six East European CEMA states. One of Interelektro's earliest and most publicized accomplishments has been assistance in the organization of an electric-motor and equipment factory at Novovolynsk in the Ukraine, not far from the Soviet-Polish frontier.<sup>5</sup> The Novovolynsk plant is unusual because it is a three-way cooperative effort involving Soviet, Polish and GDR investment, equipment and personnel. In essence, it carries out co-production, three countries producing one standard electric motor.

Interelektro is chaired by a Deputy Minister of the Soviet Ministry for Production of Electric Equipment, has its main offices in the USSR, and its official, long-term objective is "the working out of common technical requirements for production of equipment so that CEMA countries will no longer be producing a number of different models" (of what is apparently the same item).<sup>6</sup>

Although information on the IEO's is limited, it is known that headquarters may be in various member countries, that the Chairman or Director is a national of the host country, and that their financing is through the currency of the host country and in Transferable Rubles. Over the past four or five years it appears that the following IEO's have been established: (except where noted all East European members participate):

Organization	Headquarters	Production specialty
Interelektro	Moscow	Electric motors, electrical equipment.
Intertekstil'mash	do.	Textile machinery.
Interatominstrument	Warsaw	Nuclear technical equipment.
Interchimvolokno	Bucharest	Artificial fibers.
Interatomenergo	Moscow	Nuclear powerplants.
Assofoto <sup>1</sup>	do.	Photographic industry (films, chemicals.) <sup>2</sup>
Mongolsovtvetmet <sup>3</sup>	Ulan Bator	Copper and molybdenum ores. <sup>4</sup>
Domochin <sup>1</sup>	Moscow	Household chemical products (detergents).

<sup>1</sup> Only U.S.S.R. and German Democratic Republic participating.

<sup>2</sup> Assofoto appears to be a major producer of photographic film and magnetic recording tape involving genuine coproduction by the German Democratic Republic and the U.S.S.R. according to articles in the Soviet press. There are production facilities in both the German Democratic Republic and the Soviet Union, management consists of nationals from both countries and there is also joint investment.

<sup>3</sup> Only U.S.S.R. and Mongolia participating.

<sup>4</sup> Mongolsovtvetmet is mentioned in an article by Mongolian Deputy Premier Damdinjabin Maydar published in Pravda, Sept. 17, 1975. See also "Narodnoye Khozyaystvo MNR 1973," Ulan Bator 1974.

<sup>5</sup> *Sotsialisticheskaya Industriya*, Moscow, May 20, 1974, and subsequent articles in the same newspaper.

<sup>6</sup> *Ibid.*

Information on the activities of these organizations is limited and spotty. It is known that, variously, they are concerned with research, exchange of information, coordination of production, planning, management, foreign trade, marketing and sales. How successful they have been so far, how efficient they are or may be, remains to be seen. Nevertheless, they constitute an interesting structural framework for movement toward supranationality at a technical and production instead of governmental level. The plans of Interelektro, for example, to promote common, bloc-wide manufacture of the same type of electric motor, and also its work on joint-production by three neighboring countries could, presumably, be as effective as orders handed down from a higher, supranational body.

(F) *The Protocol on "Technical Standardization"*

Closely linked with the cross-frontier, intra-CEMA cooperation and uniformity in industrial production which the "international economic organizations" seek to promote is the massive CEMA technical standardization program. A CEMA Institute for Standardization has been in existence since 1950 but appears to have been more latent than active until the early 1970's and the inauguration of the Complex Program.

In essence the current CEMA Standardization Program is just what its name implies: the establishment of common scientific, technical and industrial standards for industry, science, agriculture and other economic sectors throughout all nine member countries. Probably patterned after GOSSTANDART, the Soviet equivalent of the U.S. Bureau of Standards, the standardization program moved into high gear at the 28th CEMA Council Meeting in Sofia in 1974. At that time a standardization protocol was presented, approved and signed by all member countries except Romania (which finally signed about one year later). In essence, the Protocol called for compulsory adherence by member countries to CEMA technical standards as they were announced at regular intervals by the CEMA Standardization Commission. This meant that the signatory countries must instruct their industries, design centers, scientific laboratories etc. to adhere to a CEMA standard within a certain time period after announcement was received from Moscow that the CEMA standard for the particular item had been fixed.

It appears that the CEMA Standardization Commission examines and approves many hundred of standards each year. The total for the year 1975 was more than 2300 according to one Soviet article.<sup>7</sup> Official procedure requires that the standards selected incorporate the best production of a particular item to be found in all nine countries. Thus, if a Czechoslovak turret lathe is found to be best in design and efficiency, then it is accepted as best and within a fixed period (not-stated) turret lathes produced in all other CEMA countries, including the USSR, must meet the standards of the Czech machine. Furthermore, the CEMA standard becomes law in each country, another move toward lower-level supranationality.

<sup>7</sup> *Pravda*, Jan. 21, 1975. The article, by N. Boytsov, Chairman of the CEMA Standardization Commission, notes that the GDR and Bulgaria are leaders in meeting CEMA standardization targets.

(G) *The Numerous and Often Unreported Intra-CEMA Bilateral Agreements*

Although the large CEMA multilateral agreements for raw material and energy development discussed in (B) above have received considerable publicity, there has been relatively little on the smaller intra-CEMA agreements which involve two or three countries. These include a considerable network of organizations and associations—the IEO's mentioned in (E) above, other organizations called “joint enterprises” and “international economic unions,” and the specialized inter-governmental organizations. All together they make up a complex labyrinth.

One of the most authoritative tabulations of these agreements to be found to date appeared in a GDR publication, *Einheit* in June 1975.<sup>8</sup> At that time it listed 46 different intra-CEMA “international agreements” including the large multilaterals.

Most of the small, bilateral and trilateral agreements promote a relatively intensive degree of economic coordination and cooperation in highly developed industrial areas and within a small geographic area. As the leading industrial country in CEMA Eastern Europe, the GDR is a partner in nine of the 13 bilaterals mentioned by *Einheit*. These include an association for production of footwear with Czechoslovakia, one for textiles and cotton yarn with Poland, film with the USSR (*Assofoto*) and chemicals and metal forms with the USSR. There is also a Polish-Hungarian joint enterprise, *Haldez*, for the manufacture of construction materials from coal-mine slag, a joint Bulgarian-Hungarian enterprise, *Intransmash*, for manufacture of machines for internal factory transport, and the Novovolynsk plant, noted above, for production of electric motors under GDR-Polish and Soviet auspices. Special Soviet agreements with Mongolia provide for development of Mongolian mineral resources and there are a number of Polish agreements with East European countries for maritime transport.

Summing up, this steadily increasing number of small, regional agreements, many of which might be regarded as joint ventures in the Western sense of the term, constitutes another aspect of integration which is largely unpublicized and unnoticed.

(H) *Mounting East European Indebtedness to the West: A Step Toward Further Dependence on the USSR?*

The upward swing in Soviet and East European indebtedness to the West, both through rising trade deficits and through massive borrowing in Western money markets, has been a significant recent trend in East-West economic relations. As have the Soviets, the East Europeans have been busily buying up Western capital equipment and technology in accordance with long-term development plans.

Unfortunately, however, the East Europeans appear less able to handle the resultant indebtedness than does the USSR. Some of the reasons are mentioned elsewhere in this paper: small economies, limited—if any—domestic sources of energy and raw materials, meager gold and hard currency reserves. Furthermore, these countries lack the

<sup>8</sup> *Einheit*, East Berlin, June 1975. Another account, in Polish, is “The International Economic Organizations of the COMECON Countries,” Zdzisław Osiecki, *Handel Zagraniczny*, Warsaw, April 1976.

Soviet Union's ability to insulate itself from the impact of Western inflation. Forced to maintain huge subsidies to protect their consumers from the increased costs of imports, they are under steady pressure either to raise internal prices or to borrow still more from the West.

Estimates of Soviet and East European hard currency trade deficits for 1976 alone, based on preliminary figures, are about \$4 billion for the USSR and about \$6.5 billion for Eastern Europe. Estimates on total (trade and financial) individual East European indebtedness to the West vary, but in the case of Poland a figure of \$10 billion has been mentioned, with a debt service ratio of about 45 percent.

The obvious way for the East European CEMA countries to bring their hard currency debts under control is to cut back sharply on imports and borrowing from the West and to make an equally sharp increase in exports. Whether they will be able to achieve this depends on many different factors, some of them, such as Western inflation, not subject to their control.

In the background, however, there is the continued possibility that this East European indebtedness will lead to further dependence on the Soviet Union and to a further tightening of CEMA integration. In the case of Eurodollar credits, for example, the USSR is generally regarded by Western bankers as the ultimate guarantor for the CEMA East European countries. And it is the Soviet Union's top credit rating, based partly on its possession of one of the world's largest national gold reserves, which enables most of these countries to continue to be able to acquire credits from Western banking syndicates.

To date there has been only one indication, and that not officially confirmed, of the appearance of this additional thread of East European dependence within CEMA. In the fall of 1976 it was widely and reliably reported that Poland had received a one billion ruble credit from Moscow. Its purpose was emergency assistance to help Poland in its precarious economic situation. But measured in terms of CEMA objectives this credit constitutes another link for stronger integration, along with such other links as the deterioration of East European terms of trade with the USSR, investment in Siberian energy projects and intra-CEMA plan coordination.

### III. POLITICAL GAINS: PRESTIGE AS AN INTERNATIONAL ECONOMIC ORGANIZATION AND CONTACTS WITH THE WEST

Concomitant with its internal economic expansion CEMA has also been developing a much stronger international political presence. Some of this has been concentrated image building, a concerted effort to change the Western view of the Council of Mutual Economic Assistance from that of a completely Soviet-dominated, rather ineffective group of East European states, frequently involved in historic, nationalistic rivalries, to a powerful, important international economic organization on a par with the Common Market or some of United Nations regional organizations. This drive to increase stature and worldwide acceptance has, of course, been greatly assisted by East-West detente and the sharp increase in Soviet and East European trade and economic relations with the Industrial West. And it has also been consistently promoted by Soviet foreign policy.

The main channels for building this stronger political dimension have been through political and economic contacts with non-socialist

countries and organizations; and special attention to the third world. CEMA negotiations with the EEC, the conclusions of special agreements with Finland, Iraq and Mexico, and the presence of observers from Laos and Angola at the 1976 Council meeting exemplify this new political side of CEMA which is still expanding.

(A) *Official Ties With UN Organizations*

Although the CEMA Secretariat appears to have had some occasional contacts with United Nations organizations in the late 1960's and early 1970's, formal contact did not really begin until the fall of 1974 when the UN agreed to extend observer status at the UN General Assembly in New York to both CEMA and the Common Market. This development received extensive play in the Soviet press. It was rapidly followed by CEMA observer accreditation to several UN regional organizations—the Economic Commission for Europe (ECE) in Geneva, the Economic Commission for Latin America (ECLA), and for the Far East (ECAFE).<sup>9</sup> UN regional organizations are regularly invited to send observers to CEMA Council meetings and to some of the higher level meetings in Moscow.

(B) *Agreements With Non-Socialist Countries*

Following in the steps of the EEC, CEMA has now concluded formal agreements with three "outside" countries, Finland, Iraq and Mexico, and there are a number of indications that agreements are contemplated with additional countries—mostly in the third world—over the next several years.

There has been some confusion regarding the exact nature of these agreements. In essence, they are a bilateral cooperation agreement between CEMA as an organization (the CEMA Secretariat representing the nine member states) and the non-socialist country. The latter does not acquire official observer status at CEMA meetings, something which continues to be reserved only for certain socialist states—Yugoslavia, North Korea, Vietnam. The non-socialist country which has a bilateral agreement is nevertheless invited to send representatives to major CEMA meetings and has numerous other contacts as noted below.

The CEMA agreement with Finland was signed in Moscow on May 16, 1973 and appears to have served as a model for the subsequent agreements signed with Iraq (June 4, 1975) and Mexico (August 13, 1975).<sup>10</sup> It established a joint Finnish-CEMA Commission which meets twice a year in alternate capitals. And beneath it there are a number of sub-groups for different economic areas—oil, natural gas, timber, chemicals, machine-building, shipping, mining, to name a few. These groups also have alternate meetings in different cities, arrange further sub-groups and study-groups.

In the particular case of Finland it appears that most CEMA activity has been concentrated on energy (oil and natural gas, both

<sup>9</sup> *Pravda*, May 5, 1975.

<sup>10</sup> The conclusion of this agreement with CMEA gave Finland political balance for its relations with the EEC with which it also signed an agreement in May 1973.

of which Finland imports from the USSR) and the chemical and timber industries. The various specialized chemical and timber industry commissions have, according to the Soviet press, proposed long-term agreements for mutual deliveries of certain types of chemicals, recommended specialization of production of different types of chemicals by plants in Finland and CEMA countries and proposed cooperation in production of cellulose through the sodium-oxide method which reduces environmental pollution.<sup>11</sup>

The CEMA agreements with Iraq and Mexico call for the establishment of similar joint commissions and sub-commissions, meetings in alternate capitals and a similar bureaucratic hierarchy which will—presumably—concentrate on the most logical sectors for expansion of trade and economic relations between the CEMA countries and Iraq and Mexico. Thus, in the case of Mexico, it appears that oil and natural gas will be subject to special attention.

Several developing countries have been mentioned as likely candidates for an agreement with CEMA—Colombia, Argentina, Guyana (which sent a Ministerial level observer to a January 1977 CEMA Executive Committee meeting in Havana), Afghanistan, India and Iran. Rumors wax and wane. They are encouraged by the fact that most developing-country leaders who visit Moscow are invited to make an official call at the CEMA Secretariat where they are cordially met by Executive Secretary Faddayev and his staff. There is no doubt that the possibilities for some form of association agreement are discussed during these visits but actual implementation appears to be a matter for much additional negotiation.

At first glance these CEMA agreements with countries outside of the CEMA bloc appear as rather innocuous and slow-moving, and not at all comparable to some of the EEC agreements with outside countries which contain important provisions for trade quotas and preferences. But their ultimate possibilities and implications should not be overlooked. In addition to giving an additional boost to CEMA's international image, they provide an available, parallel framework for expansion of economic relations and trade between the non-socialist country and the USSR, Eastern Europe and Cuba. And in the case of Latin American countries the fact that nearby Cuba is a full CEMA member gives them additional importance.

### *(C) Special Attention to the Third World*

In reviewing CEMA's expanding political posture, it is apparent that particular attention is being paid to developing countries. In 1973, for example, the International Investment Bank announced that it was organizing a special, one-billion ruble aid fund for developing countries. The Fund, part of which is in hard currency, has not yet, as far as is known, extended any credits, possibly because the IIB is still waiting for just the right type of project. Another CEMA-controlled fund for developing countries provides scholarships and grants for study in CEMA countries by students from the third world. In contrast to the IIB's fund, this one has been operational for several years.

<sup>11</sup> *TASS Vestnik*, Moscow, Feb. 5, 1975.

In addition to special funds, both CEMA banks maintain active correspondent relationships with the Inter-American Development Bank and the Asian Development Bank, and occasionally take part in Western-organized syndicate Eurodollar or Eurocurrency loans for developing countries. The special attention which the CEMA Secretariat gives to third-world leaders, visiting Moscow and the various invitations to LDC countries to send observers to CEMA Council meetings and other important meetings further indicate the emphasis being given to development of good ties, both political and economic.

#### (D) *Negotiations With the Common Market*

The dialogue between CEMA and the EEC on a possible agreement—which has been underway since the summer of 1973—has attracted considerable interest. On balance it appears to be a reasonable and almost inevitable development: the establishment of formal ties between two economic blocs representing most of Eastern and Western Europe, each containing nine countries and together accounting for 16 of the leading countries on the European continent.

In actuality, of course, the two groupings are quite dissimilar. The EEC is composed of nine relatively small, highly-developed West European countries which have accorded certain rights of supranationality to the EC Council in Brussels. CEMA consists of six small East European countries, some of them on the borderline between “developed” and “developing,” the Mongolian People’s Republic in Central Asia and Cuba in the Caribbean, both “developing,” and the USSR, a superpower which is partly in Europe and partly in Asia. Moreover CEMA, officially at least, strongly rejects the idea of supranationality and emphasizes national sovereignty and the “interested party” principle for its members.

It seems to be partly because of this considerable divergency, and also for various other reasons, such as the high percentage of CEMA trade with the EEC versus the rather low share of EEC trade with CEMA, that the latest EEC response to a CEMA proposal for a comprehensive agreement has been less than satisfactory as far as the CEMA Secretariat is concerned. The EEC response suggests a rather limited agreement which would be concerned with exchange of information and statistics, some joint study groups and occasional joint consultations of experts.

Despite this slow pace of negotiations, it should be kept in mind that the fact that they are taking place at all is significant since they amount to a *de facto* Soviet (and CEMA) recognition of the Common Market. This has been further emphasized by the recent Soviet agreement to recognize the EEC 200-mile limit on fishing rights. And they have also given important additional support to CEMA’s public image as an organization equivalent to the Common Market.

#### IV. SOME OLD AND NEW PROBLEMS

The political and economic gains which CEMA has achieved in recent years are in many ways impressive. But at the same time a number of obstacles continue to hamper the accomplishment of economic integration goals despite the carefully worked out, long-range plans of the Complex Program. Some have been in existence

since the CEMA organization was founded nearly thirty years ago and seem to be almost endemic in command-economy systems. Others are relatively new, the result of changes in the CEMA structure and some of the new East-West relationships which have evolved with detente. In the following we discuss five of them, some of which are closely related.

(A) *Internal Prices: Disequilibrium, Non-Comparability and Confusion*

The fact that internal, domestic prices in the USSR and in each of the six CEMA countries of Eastern Europe have virtually no relation to the production costs and to the demand factors which determine domestic prices in market-economy countries means that they are "disequilibrium prices" in comparison with the way prices are determined in Western countries. Instead of reflecting costs of labor, materials, transport, scarcities or over-supply, tremendous consumer demand or consumer lack of interest or apathy, they are rigidly fixed and maintained by a central planning authority. This may hold down inflation, as it exists in Western countries, but it results in a completely unrealistic price as far as Western yardsticks are concerned.

A second form of "disequilibrium" exists in the case of intra-CEMA foreign exchange rates. CEMA currencies are non-convertible. Their exchange rates for Western currencies and also for other CEMA-country currencies are arbitrarily fixed by their respective governments and are not in any way determined by the supply of and demand for a particular currency for trade, payment for services and other transactions. The Bulgarian Leva for example is currently fixed by the Bulgarian Government at an exchange rate of 0.956 Leva for one US dollar.<sup>12</sup> If there is a sudden, huge demand for Bulgarian Leva by tourists and by foreign importers who wish to buy Bulgarian goods the price of the Leva in dollars remains the same. Likewise, if there is virtually no demand for it, it still remains fixed at 0.956 to the dollar.

One result of these two disequilibria—in price formation and in foreign exchange rates—is that CEMA countries have for a long time used Western, that is, world market prices, in valuing all commodities in intra-CEMA trade. Thus, to take a hypothetical example, if Czechoslovakia ships 20 turret lathes to Bulgaria, the approximate price for similar models manufactured in the West and sold in international trade is first determined. If the average price for equivalent models manufactured and sold by the FRG, France, US and Swedish firms is about \$100,000 each, then the lathes are valued at this price (plus or minus certain adjustments) in Transferable Rubles. Once they are shipped to Bulgaria the Bulgarian indebtedness to Czechoslovakia as maintained on the books of the IBEC is increased by two million Transferable Rubles.

Proceeding further, Bulgaria may offset this new indebtedness almost immediately by shipping to Czechoslovakia industrial loading equipment (forklift trucks) valued at about two million Transferable Rubles, the price of each forklift truck having been determined by the price for comparable models manufactured by Western firms and exported in international trade.

If this resort to world market prices were *not* used, then the Czechoslovak and Bulgarian foreign trade organizations would be

<sup>12</sup> "East-West Markets," New York, April 18, 1977.

confronted with the Herculean task of trying to determine the true value of Czechoslovak turret lathes and Bulgarian forklift trucks in terms of each country's respective structure for internal prices, wages, costs, state subsidies, turnover taxes and other key elements. What is the value of a turret lathe made at a factory in Brno at a labor cost of X Czechoslovak crowns, at a materials cost of Z crowns which includes a plus or minus factor of state subsidies and turnover taxes amounting to Y crowns? Furthermore, the internal domestic price for these lathes may be much lower than apparent costs. And again, the *methods and factors* used in determining the Czechoslovak costs are different in varying degrees from those used in Bulgaria.

The fact that East European domestic pricing systems not only lack uniformity but are, reportedly, becoming even more divergent, inevitably retards plans for true multi-lateralism—both in intra-CEMA trade and in plans for establishing some form of currency convertibility, even to a limited degree.

### *(B) Persistent Bilateralism in Intra-CEMA Trade*

The problem of lack of comparability in determination of domestic prices outlined above leads to this second problem which has plagued CEMA since its earliest days. In the immediate postwar period economic autarky was the order of the day in the Soviet Union. Bilateral balancing in foreign trade, i.e. the value of Soviet exports for a given year to a particular country being kept almost equal to imports from it for the same period was the accepted practice. It was also followed by the East European CEMA countries, their trade with other socialist countries being settled through bilateral clearing, the establishment of swing limits and other standard clearing account mechanisms.

Over the three decades since the end of World War II autarky has gradually been replaced by such concepts as the "international socialist devision of labor" and "socialist economic integration". When the IBEC was created in 1964 one of its announced prime purposes was to foment multilateral trade within CEMA through the use of the Transferable Ruble. And according to IBEC public announcements multilateral settlements are increasing yearly.

Unfortunately, however, close scrutiny of IBEC's annual statements indicates that up to the present time more than 90 percent of all intra-CEMA trade conducted through IBEC is settled bilaterally. The Transferable Ruble credit balances which Poland may acquire from its exports to the GDR are not put aside for purchases from Bulgaria or Romania at some future date. Instead, almost all of them are used to pay for imports from the GDR.

In the absence of published, official Soviet and East European explanations for the meager progress in multilateral trading, it is only possible to speculate. One major reason appears to be the considerable inflexibility and rigidity which permeates foreign trade planning and administration in CEMA-country foreign trade ministries. Precise, detailed targets for exports and imports with each particular country are outlined in advance for the entire plan year, together with longer range targets for the five-year period. Prices are also fixed in advance for transport, storage, and processing. The concept of continually

balanced trade with each partner is still considered not only desirable but essential. Large imbalances, surpluses, payments deficits for unforeseen periods of time are in conflict with what might be described as "the ethic of socialist planning." They also reflect a lack of complete control which is an anathema in a planned, socialist society.

At the present time there is no indication that the current drive for centralized CEMA plan coordination, which appears to have made some progress in the area of foreign trade, will result in any increase in multilateral trade and payment settlements. On balance more intensive planning would seem to increase rigidity and bilateralism, rather than to reduce it.

### *C. The Mushrooming CEMA Bureaucracy*

Although precise data is impossible to obtain, there is reasonably good evidence that the overall CEMA bureaucracy—the Secretariat in Moscow, the two Banks, the intergovernmental organizations, the "international economic organizations," the various international associations and joint enterprises, the permanent commissions, to name some but not all of it—has probably more than doubled and possibly even tripled in size over the past 28 years. And the expansion continues. The creation of secretariats for the new cooperation agreements with non-socialist countries (Finland, Iraq, Mexico) for example, has added personnel in still another direction.

In addition to its sheer size, which now requires a staff of several thousand, this vast administrative apparatus is also far-flung. Although the Secretariat, which occupies an attractive new multi-story building, and other control offices including the banks, are in Moscow, many of the specialized organizations and commissions have their headquarters in other member countries. *Interkhim* is run from Halle in the GDR; *Intermetal* headquarters are in Budapest; *Interatominstrument* has its main offices in Warsaw; the central despatch center and control offices for the *Mir* electric-power grid are in Prague, as is the headquarters for the CEMA railway freightcar pool. *Interkhimvolokno* has central offices in Bucharest, *Interelektro* is based in Moscow and *Mongolsovtvetmet* is based in Ulan Bator. All of these organizations, including the Secretariat and the two banks, are staffed by "international civil servants," that is, by nationals of different member countries.

The sum total of this complex, international bureaucracy which, like Topsy, just keeps growing and growing, appears to be quite literally a sprawling CEMA empire extending from the Caribbean in the Western Hemisphere to the Gobi desert in Central Asia. And in accordance with Parkinson's law, its growth must inevitably cause more growth, more experts, more meetings, study groups, agenda, commissions, secretariats, travel vouchers, protocols, regulations and copies in quadruplicate, together with the duplication, overlapping, inefficiency and loss of tight control which accompany bureaucratic sprawl.

### *(D) Independents and "Free Thinkers"*

The official, outward appearance of CEMA is one of complete unity of views with the understanding that those who disagree can agree to disagree, free from any pressures which might be imposed

by supranationality. Thus, as stated above, the Complex Program and Statutes stress full recognition of each member's sovereignty. And in accordance with the "interested country principle", no member is required to join in any CEMA international organization or to subscribe to any new program unless it voluntarily wishes to do so.

It has long been apparent, of course, that national differences and disagreements occasionally arise at different meetings and at different levels. Some of these may stem from traditional, historic rivalries and antagonisms but it appears that the more significant conflicts are on such matters as method, management and policy.

The outstanding "dissident" (a word used advisedly) has been Romania. Time after time the Romanians, using their rights under the "interested country principle," have been the only member country to refuse to join a new CEMA program or organization. And then—significantly, as an indication of the near impossibility of *not* cooperating—they have joined it a year or two later. This was the case with the IIB which Romania finally joined in 1972; with *Interkhim* which was formed in 1969 and which Romania joined in December 1970; with the protocol on technical standardization which was adopted at the CEMA Council meeting in 1974 and which Romania signed in 1975; and with the CEMA organization for cooperation in the ball-bearing industry which was established in 1964 but which Romania did not join until eight years later in 1972.

Romania's footdragging, one step backward, finally one or two steps forward, to catch up, seems to have become almost a standard procedure for new CEMA organizations. And it has also been in the Romanian press and in Romanian economic and political journals that some of the sharpest attacks have appeared on the dangers of loss of national sovereignty and economic independence which can result from long-range CEMA integration plans—despite CEMA Secretariat assurances to the contrary.

The most recent example of Romanian refusal to "go along with the group," has been in regard to CEMA negotiations with the Common Market. As the dialogue between Moscow and Brussels proceeded through the years 1973–1975, the Romanians insisted that the CEMA Secretariat should not have the right to negotiate with the EEC on behalf of individual CEMA member states. This insistence continued through the fall of 1975. At that time the Romanians carried on negotiations with an EEC delegation on exports of Romanian textiles to the Common Market and also refused—apparently—to agree to a proposed CEMA declaration which would have favored CEMA Secretariat negotiations with the EC Council on behalf of all CEMA countries. One result of Romania's recalcitrance on this issue may have been the postponement of an extraordinary CEMA Council session which had apparently been scheduled to take place in Moscow in December 1975, just prior to the Twenty-fifth Party Congress of Soviet Communist Party (CPSU).

Although no other East European country has been as outspokenly or persistently independent as Romania, it is generally recognized that both Hungary and Poland are interested in various types of economic reform which differ from the rigorous, intensively centralized system practiced in the USSR. Polish and Hungarian economists have also been keenly interested in trying to establish

some form of convertibility for the Transferable Ruble, or at least taking some concrete steps toward some limited currency convertibility in CEMA countries which would be a first step toward breaking the strictures of bilateralism.

*(E) The Painful Orchestration of Soviet Energy and Raw Material Deliveries to Eastern Europe*

Nominally, the allocation of Soviet raw materials and energy for the CEMA countries of Eastern Europe would appear to be a fairly routine task, accomplished through annual bilateral trade agreements after the usual negotiations. And it would also appear as a relatively easy one for the controlled, orderly apparatus of socialist planning. In fact, however, the increasing pressures of Soviet internal requirements plus those of Eastern Europe have made this doling out of raw materials and energy a difficult matter for many years, and were an important incentive for Soviet insistence on East European participation in the large raw material development projects on Soviet territory. With the advent of the 1973 energy crisis there have been numerous indications that the annual apportionment for Eastern Europe has progressed from being merely difficult to an agonizing balancing act which can cause painful economic and political reverberations if any mistakes are made.

Some of the basic causes of this new problem are identical with some of the difficulties which have recently developed for many countries in the world, East and West, in the last quarter of the twentieth century; the increasing world-wide shortages of raw materials and energy, rising populations, accelerating consumer demand, rising growth rates, persistent, and sometimes rampant inflation.

The issue first came into sharp focus on the matter of Soviet oil deliveries to the CEMA East European countries in 1974. And oil continues to be a primary, and probably the most visible, indicator of the tensions involved. In essence, as noted in II(A) above, the USSR was faced with the problem of just how much oil it could afford to deliver to Eastern Europe at a cut-rate price, for payment in Transferable Rubles when every ton of oil shipped to Western Europe could earn two or more times as much in badly needed hard currency. The question was further complicated and exacerbated by the Soviet Union's unexpected hard currency deficits caused by large-scale purchases of Western capital equipment and technology during a period of Western inflation, and by unexpected emergency grain purchases, and also by the rapid expansion of the Soviet Union's own oil requirements.

For the Soviet leadership, and specifically for the top personnel in charge of foreign economic relations, the handling of the complex problem of energy and raw materials for CEMA Eastern Europe must inevitably be a delicate tightrope walk for which there is no long-term, automatic solution. The raising of intra-CEMA foreign trade prices can, in effect, be regarded as merely an internal adjustment which has not solved the basic problem and has in itself caused a number of others.

In the case of oil, for example, the Soviets appear to have set a definite limit on the amount they will provide for Eastern Europe

(approximately ten percent of the annual output) and to have decided to compel these countries to purchase additional quantities from world markets—for hard currency. But increased East European purchases from world markets (1) mean less dependence on the USSR and thus a certain reduction in integration and (2) require increased East European exports to hard currency markets, which is also a move away from dependence and integration.

The increased East European use of Soviet natural gas is one partial way out of this dilemma, and the all-out drive for completion of the Orenburg pipeline reflects a policy decision in this direction. But here again there is the persistent, nagging question of how much for CEMA allies and soft currency and how much for Western customers and Deutschmarks, Francs or Austrian Schillings. When the Orenburg project was first announced it appeared to be purely a CEMA project. Now there are indications that some of the gas will also be exported to Western Europe. And Soviet gas from other lines in the USSR will also be exported westward in increasing quantities.

This same dilemma, how much for the East European fraternal socialist countries, how much for the West and how much for ourselves (the USSR) can also be applied to Soviet plans for exports of all other commodities—coking coal, copper, cellulose, asbestos, timber, cotton, chrome ore, apatite and even industrial diamonds. It must inevitably result in long, painful negotiating sessions before bilateral agreements are concluded in Moscow or in East European capitals.

In addition to omnipresent economic strains, this enigma of energy and raw materials allocation also poses political problems in Eastern Europe which can be even more acute, more dangerous. The disturbances which erupted in Poland in May and June 1976, indicate what can happen if an East European economy comes under too much strain, becomes too imbalanced. Hence the balancing act. How to keep the relatively fragile economies of Eastern Europe on keel, how to meet the growing internal and foreign exchange requirements of the Soviet Union? How to avoid political strains, cracks and explosions, and how to keep the entire political and economic mechanism which makes up the CEMA-Warsaw Pact bloc operating smoothly?<sup>13</sup>

The answers must not be easy. And it seems that in order to maintain this desired political and economic harmony, there must be much disharmony, many denials of requests, much acrimonious negotiation, a constant pushing of buttons, pulling of levers, tightening up here, easing up there—with the overall objective of not only maintaining socialist economic integration but making progress at the same time.

## V. CONCLUSIONS

The Council of Mutual Economic Assistance is not a dramatic organization. Viewed from the West it lacks some of the glamor of the Warsaw Pact or the CPSU Congresses in Moscow or the new political force referred to as Eurocommunism. Because for a long time, from

<sup>13</sup> The one billion ruble credit reportedly extended to Poland by the U.S.S.R. in the fall of 1976 is one example of emergency action being taken to keep an East European economy on balance.

1950 to about 1970 it was relatively ineffective and also because it is very complex, often obscure and at times hard to understand, it is frequently dismissed by many Western observers as a not very efficient, Soviet controlled apparatus which will probably not succeed. Or, if it does, will not succeed very well.

In many respects, however, CEMA is like the bumble-bee which according to the laws of aeronautical engineering, cannot fly because its wings are too small for its body; but, never having heard of aeronautical engineering, the bumble-bee flies anyway.

Evaluated on the eve of its 30th anniversary, there can be no doubt that the organization has made important progress, especially since 1970. The launching of the Complex Program in 1971 was followed, just two years later in 1973, by the world energy crisis which, from the viewpoint of Soviet and CEMA Secretariat objectives, could hardly have been more fortuitous. The upheavals of 1973 and 1974, and the worldwide inflation and shortages which will apparently continue for the foreseeable future, have given a tremendous boost to East European economic dependence on the USSR. It is difficult, of course, to measure the exact degree of this dependence and it is still in process of development. But added to the geographical, political and military ties which these countries already have with the Soviet Union, it is an impressive fact.

Also impressive is the continued expansion of CEMA infrastructure, both physically, in such areas as pipelines, power grids, transport and raw material-energy development projects, and administratively in the large number of specialized organizations—economic, industrial, technical, financial and even political. Most impressive of all are the indications of the beginnings of low-level, regional supranationality—co-production, joint investment, joint management at the enterprise rather than the governmental level.<sup>14</sup>

As noted in this paper's introduction, CEMA is moving slowly but steadily forward. There are indeed many serious problems, just as the Soviet Union itself has many problems in its own economic development. It would appear, however, that at present time is on the side of "socialist economic integration" and that over the next two decades there is a good possibility that CEMA will become increasingly stronger and more effective.

<sup>14</sup> Several days after completion of this article the Soviet press (*Pravda* and *Izvestiya*) on April 16, 1977, published the official communique of the 80th meeting of the CEMA Executive Committee which had convened in Moscow from April 12 through 14. The Communique is particularly interesting for its indication of continued top-level attention to some of the points which are mentioned.

*Inter alia*, the Executive Committee (1) approved cooperation in joint (several country?) machine-tool production using numerical control systems; (2) approved the formation of a new International Economic Association, *Interodochistka*, which will be concerned with environmental protection and cleaning of water resources and will have its headquarters in Bulgaria; (3) noted the continued importance of expanding multilateral payments in intra-CEMA trade through the use of the Transferable Ruble and discussed ways in which this can be done; (4) approved a new system of exchange of consumer goods between CEMA countries (details not mentioned); (5) discussed increased CEMA cooperation with socialist and developing countries which are not members of CEMA, specifically "the development of economic and scientific-technical cooperation with the Socialist Republic of Vietnam, the People's Democratic Republic of Laos, and also the People's Democratic Republic of Angola;" (6) discussed the "inquiry of the Cooperative Republic of Guyana regarding the establishment of cooperation relations" with CEMA; (7) discussed further steps towards development of relations with the EEC; and (8) approved a report on the activities of the CEMA observer delegation at the 31st session of the United Nations General Assembly.

# RECENT DEVELOPMENTS IN EAST-WEST EUROPEAN ECONOMIC RELATIONS AND THEIR IMPLICATIONS FOR U.S.-EAST EUROPEAN ECONOMIC RELATIONS

BY EDWARD A. HEWETT\*

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## ABSTRACT

This paper analyzes recent developments concerning Soviet and East European efforts to arrange negotiations between the European Community (EC) and the Council for Mutual Economic Assistance (CMEA) on an agenda of trade and cooperation issues important to one or both sides. It discusses the underlying political and economic realities and perceptions which favor such negotiations, and those which serve as major impediments. Although at present the EC has shown an unwillingness to engage in discussions, this paper concludes that the CMEA countries will continue to push for such negotiations and that the EC will most likely agree. It seems unlikely, however, that the resulting agreements will have a major impact on trade flows in Europe. Certainly all foreseeable agreements would appear to contain no important implications for U.S.-CMEA or U.S.-EC trade.

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## INTRODUCTION

*The Subject of the Paper*

In recent years the Council for Mutual Economic Assistance (CMEA)<sup>1</sup> and the European Community (EC)<sup>2</sup> have begun to cautiously explore the possibilities of framework agreements on economic relations between their respective member states. In 1974 as the EC Common Commercial Policy (CCP) took effect, all bilateral trade agreements between individual EC members and the CMEA countries expired. In their place the EC proposed draft trade agreements between the Community (which by then controlled all external trade relations with "state-trading" countries) and individual CMEA countries. In the interim until the CMEA countries responded to the draft bilateral trade agreements, the EC Commission declared (on November 12, 1974) that it was now giving state-trading countries MFN with respect to tariffs and that the scope of imports subject to quotas in 1974 remained the same in 1975.<sup>3</sup>

In 1976 CMEA responded with a proposed CMEA-EC framework agreement covering trade, credits, cooperation, and so on. In late 1976 the EC rejected the CMEA proposal, which is where the situation stands at present. Both sides are slowly outlining negotiating positions, and it is doubtful that an agreement of substance will soon emerge.

The attempt by CMEA to negotiate a trade agreement, in fact *any* agreement, with the EC itself is a dramatic turnabout from earlier, particularly Soviet, policies concerning the EC. In the late 1950's the USSR held that an economic union such as the EC would soon disintegrate due to severe contradictions among the member states. In the early 1960's, the position changed to one of admitting that the EC had survived over the short term but that its long-term prospects were dim. Finally in the 1970's, in light of the EC's success in stimulating trade, and its enlargement to nine members, the Soviets seemed to admit that indeed the EC was functioning well enough that they should consider formally recognizing it and dealing with it, a process which is just now beginning.<sup>4</sup>

This paper seeks to analyze the economic and political issues surrounding CMEA-EC economic relations, to predict on the basis of that what the eventual outcome may be regarding the substance of EC-CMEA relations, and then to assess what implications these developments might have for U.S. relations with the CMEA countries.

<sup>1</sup> Currently CMEA has nine active members: Bulgaria, Cuba, Czechoslovakia, East Germany, Hungary, Mongolia, Poland, Romania, and the USSR. My concern in this paper is only with the European members, which are by far the most important ones. As I have shown elsewhere, in the case of Cuba its "membership" is a very special one which is not nearly as active as might first appear. (See my "An Analysis of Cuba's Membership in the CMEA" a paper presented to a conference on "The International Relations of the Cuban Revolution," sponsored by the Ibero-American Language and Area Center, NYU, October 31-November 1, 1975.)

<sup>2</sup> The term *European Community* is now the formal term applied to three communities—the European Coal and Steel Community, the European Atomic Energy Community and the European Economic Community—since their unification under one set of governing bodies in 1967. Practically all that is said here refers only to the EEC, nevertheless I shall use the more general term, and for simplicity I shall use it even for the brief discussion of the pre-1967 period. The members of the EC are Belgium, Denmark, France, Germany, Ireland, Italy, Netherlands, Luxembourg, and the United Kingdom.

<sup>3</sup> *Bulletin of the European Communities* (11/74), 14.

<sup>4</sup> There are many discussions of the evolution of Soviet policy towards the EC. For one which includes developments up to about two years ago, see Ileana G. John, "The Soviet Response to Western European Integration," in the book he edited entitled *EEC Policy Towards Eastern Europe* (Lexington: Lexington Books, 1975), 37-58.

This introductory section outlines the present CMEA and EC positions on a framework agreement. The second section discusses the economic and political factors behind CMEA initiatives toward the EC. That section shows that developments in the CMEA are an important determinant of the future of the EC-CMEA dialogue, therefore the third section discusses developments in CMEA in the 1970's. Then the final section discusses the probable future course of EC-CMEA relations, and the implications that course would have for U.S. relations with East and West Europe.

*The EC Position on Relations With the CMEA Countries*

Until the late 1960's the EC had no official position on trade with the CMEA countries. But as the Community moved to solidify its control over external trade relations of the members, it began to develop a Common Commercial Policy (CCP) towards "state-trading" countries, for our purposes, towards the CMEA countries. In anticipation of agreement on the CCP, the EC Council of Ministers agreed in 1970 to a Commission proposal that from then on all trade agreements between EC members and CMEA countries spanning more than one year would include a clause stipulating that the agreement could be modified if the CCP required it.<sup>5</sup> In 1972 one of the announcements from the Summit Conference of the Nine was that the CCP would come into force on January 1, 1973, and that most bilateral agreements between CMEA countries and individual EC members would end in 1974, with the remainder expiring in 1975. Henceforth CMEA countries would have to negotiate agreements with the EC Commission.<sup>6</sup> In May 1974 the Council of Ministers indicated the EC's willingness to negotiate trade agreements with individual CMEA countries. Receiving no response, it approved a draft bilateral trade agreement on November 7, and sent it on to each CMEA country a few days later.<sup>7</sup>

The draft proposed that in trade between the EC members and each CMEA country, they should agree—

1. On non-preferential trade relations (e.g., no special concessions in the Common External Tariff) based on reciprocal assurance of equal benefits and obligations;
2. On mechanisms for solving commercial difficulties between countries;
3. On mutual granting of Most Favored Nation (MFN) treatment with respect to tariffs, subject to the customary exceptions (e.g. special preferences for LDC's); and

<sup>5</sup> John and Pauline Pinder, *The European Community's Policy Towards Eastern Europe* (London: PEP, 1975), 17. The EC Commission and Council of Ministers are the only two institutions there which are important to this paper. The Council is the main legislative organ of the EC and consists of one minister representing each member-state. Its decisions are binding on the member states. The Council can only, however, consider proposals submitted to it by the Commission, a body composed of thirteen members appointed by common consents of the member state governments. The Commission is the executive body of the EC and its work is supported by the bureaucracy, the Directorates General. In addition to these two institutions, the Parliament with 198 members at present appointed by member-government parliaments is primarily consultative; it reviews commission proposals before they are submitted to the Council. An example of all this is the proposals concerning the implementation of the EC CCP for "state-trading" countries. The proposal was submitted by the Commission to the Council. The Council could not have considered it if the Commission had not submitted it; but the Commission can only propose it without any formal power to act on it. For a brief and easily readable introduction to the EC see George W. Hoffman and J. Warren Nystrom, *The Common Market* (2d ed.; New York: D. Van Nostrand Company, 1976).

<sup>6</sup> John and Pauline Pinder, *The European Communities*. . . , 21.

<sup>7</sup> *Bulletin of the European Communities* (11/74), 13.

#### 4. On establishing joint committees and 'safe-guard' mechanisms concerning market disruption.

It was also mentioned that "... provisions for the agricultural sector would not be ruled out."<sup>8</sup> A subsequent EC report on EC-CMEA relations made it clear this latter statement could not be construed to mean that the EC was willing to negotiate with CMEA any aspects of its Common Agricultural Policy (CAP).<sup>9</sup>

No individual CMEA countries responded to the proposed trade agreement, rather the collective response was contained in their counter-proposal of February 1976 for a CMEA-EC framework agreement, which is discussed below.

The other important developments within the EC which affected EC-CMEA relations involved the successful efforts by EC member states to retain individual control over non-trade aspects of commercial relations with CMEA. In 1966 the French successfully defended their position that policies concerning credits to the CMEA countries were part of their foreign policy, therefore not subject to the authority of the Commission. Consequently there is no common credit policy for the EC. Also, the Community has no formal authority over *cooperation* agreements, except as those agreements impinge on trade matters; therefore here also the individual EC member-countries act independently. In an attempt to minimize some of the potentially divisive consequences of autonomy in these important areas, the Council of Ministers has set up an informational exchange procedure through which individual countries are supposed to regularly exchange information on their credit policies and on the cooperation agreements which they have signed. Also there has been some discussion on the possibility of Community-wide cooperation agreements and financing for projects with CMEA countries too large for individual members to handle.<sup>10</sup>

The Community has only limited control over the quotas its member-states place on imports, particularly imports from CMEA. Most EC countries had removed quotas on the majority of imports by the late 1960's, retaining quotas on imports of sensitive products, including some quotas directed specifically at CMEA countries. At present the EC countries have agreed on a Common Liberalization List on which they record all products where quotas have been liberalized. After those products are so recorded, quotas cannot be reimposed without common consent by the entire Community. However there is no common quota list for the Community, and no common list of discriminatory quotas for imports from CMEA countries.<sup>11</sup>

This division of power between the Commission and the member-states has important implications for EC relations with CMEA. The CMEA countries have a very strong preference for negotiating intra-governmental trade and cooperation agreements since they are so closely interrelated. Yet the Community has authority only in the area of trade; in other areas the EC member-states retain consider-

<sup>8</sup> *Bulletin of the European Communities* (11/74), 13.

<sup>9</sup> R. A. Klepsch, *Report on the European Community's Relations with the East European State-Trading Countries and COMECON*. Prepared for the Committee on External Economic Relations. Document 425/74 (January 1975), 20. The CAP is discussed below.

<sup>10</sup> John and Pauline Pinder, *The European Community's . . .*, 36-7.

<sup>11</sup> John and Pauline Pinder, *The European Community's . . .*, 19 and 23.

able autonomy. Thus while the EC complains of the lack of authority on the part of the CMEA in negotiating trade agreements; it is likewise true that the Commission has no authority in negotiating *cooperation* agreements, which would include provisions on credits, industrial cooperation, joint ventures, and so on.

### *The CMEA Position on Relations With the EC*

CMEA did not directly respond to the EC draft bilateral agreements, rather in early February Gerhard Weiss, then Chairman of the CMEA Executive Committee, transmitted to the Commission a proposed framework agreement between the CMEA and the EC.<sup>12</sup> The most important propositions in the proposed agreement are:

1. Reciprocal granting of MFN treatment on the basis of existing agreements, or new ones where applicable;

2. Relations to be based on non-discrimination, including the removal of all trade barriers save those applied to all "third" (non-EC) countries (#1 probably refers to tariffs while this provision is aimed at non-tariff barriers, especially quotas);

3. A market disruption clause;

4. An agreement to develop stable, long-term trade in agricultural products, and to give up any restrictions on trade which do not apply to all third countries;

5. Discussions on currency problems with the goal of finding ways to allow the continuous growth of commerce, and an agreement on mutually favorable credit conditions;

6. A stipulation that signing this agreement does not affect the rights of individual states in either the EC or CMEA to sign agreements with states or the international organizations on the other side;

7. Establishment of a joint commission composed of representatives of the CMEA, the EC, and their respective member states; and

8. Cooperation in the areas of standardization, the environment, statistics, and predictions of consumption and demand of selected key products.

CMEA publications have referred to the CMEA proposal as a "draft agreement", yet it is only part that, and part an agenda for further discussion. It does indeed propose that the sides offer each other MFN, make moves to remove all discriminatory measures, and so on. On the other hand, it proposes that they *discuss*, for example, agricultural trade, currency issues, and cooperation on important problems. And in fact if the CMEA draft agreement were accepted as a guide to discussions, and if the discussions came out with decisions as outlined in the draft, then the EC draft bilateral agreements would fit quite well as allowable discussions (under point 6 above) between the EC as a whole and individual CMEA states. Also, the CMEA draft proposal seems to outline quite well the major issues which

<sup>12</sup> As far as I know the text has only been published in German in Jochen Bethkenhagen and Heinrich Machowski, *Integration im Rat für gegenseitige Wirtschaftshilfe, Entwicklung, Organisation, Erfolge und Grenzen (Integration in the Council for Mutual Economic Assistance: Development, Organization, Successes, and Limits)*. Berlin: Verlag, 1976), 125-30. I am grateful to Maria Otto for her translation of the text. The essentials of the agreement are discussed in several places. See, for example, V. Zoloev, "Vazhnaia Initsiativa SEV" ("An Important Initiative of CMEA"), *Vneshniaia torgovlia* (5/76), 24; or Max Baumer and Hanns-Dieter Jacobsen, "Institutional Aspects of East-West Economic Relations," *Journal of World Trade Law* (1976), 443ff.

require negotiation: credits, MFN, elimination of other trade barriers, agriculture, and general issues surrounding economic cooperation. Where the CMEA differs from the EC is in the scope of discussions they propose.

On the surface at least the main issue which impedes the beginning of discussions along the lines suggested in the CMEA draft agreement is a disagreement between the EC and CMEA on the powers which the CMEA has to negotiate on such matters. In November 1976 the EC rejected the CMEA draft proposal giving as its justification the rationale that the CMEA is essentially powerless in trade matters, and hence is not an appropriate negotiating partner for the EC Commission.<sup>13</sup> That position reflects a long-held view within the EC that CMEA indeed does not possess such supranational powers, and that the Commission should do nothing to encourage the development of such powers with the consequences that could have for the autonomy of small East-European states vis-a-vis the Soviet Union.<sup>14</sup> Actually under the present CMEA Charter in force since June 1974 the organization itself has the authority to ". . . conclude international agreements with member-countries of the Council, with other countries, and with international organizations."<sup>15</sup> This is an extremely vague phrase which gives CMEA a technical response to the charge that it has no power to negotiate agreements for its members, without specifying what types of "international agreements," or just how the individual CMEA member states will protect their interests. On the other hand, the CMEA Secretariat could well claim that the EC really has much more limited authority than the CMEA since the EC Commission is confined in its activity to trade issues only, while the CMEA Secretariat covers the entire spectrum.<sup>16</sup>

But obviously these debating points are not the substance of the real impediments to negotiations; rather they are symptoms of some very important issues. The next section considers the major political and economic issues surrounding the CMEA-EC dialogue.

## POLITICAL AND ECONOMIC CONSIDERATIONS IN THE EC-CMEA DIALOGUE

### *Introduction*

The fact that there is potential for an EC-CMEA dialogue given the real political impediments to such a process suggests that one or both sides see some potentially substantial economic benefits flowing from the successful outcome of such negotiations. One question of interest here is, therefore, what economic interests both sides bring to negotiations, and on the basis of those interests on what issues will they seek to negotiate?

<sup>13</sup> *New York Times* (11/16/76).

<sup>14</sup> R. A. Klepsch, "Report on the European Community's . . .", 23.

<sup>15</sup> Article III.2.b of the CMEA Charter as amended according to a protocol signed on June 21, 1974. For copy of the text, see *Ekonomicheskoe sotrudnichestvo stran-chlenov SEV* (May 1975), 109-112.

<sup>16</sup> At least one Soviet economist has articulated just such an argument. See K. I. Popov, "Problemy razvitiia ekonomicheskikh svyazei stran-chlenov SEV so stranami 'Obshchego rynka'," in N. P. Shmelev (ed.) *Problemy ekonomicheskogo sotrudnichestva mezhdru vostokom i zapadom evropy (Materiali mezhdunarodnoi konferentsii uchenykh-ekonomistov stran SEV i Jugoslavii, sostoiavsheisia v Moskve 9-12 Oktabria 1972 g.)* (*Problems of Economic Cooperation Between Eastern and Western Europe (Material of an International Conference of Scientists-Economists of the CMEA Countries and Yugoslavia convened in Moscow, 9-12 October, 1972)*. (Moscow: Adademia Nauk SSSR, Institute Mezhdunarodnoi Sotsialisticheskoi Sistemy, 1973), 80.

But the fact that the CMEA-EC dialogue is so slow in starting testifies to the extremely complex and important political considerations which could attend such talks and the resulting settlement. In particular it seems clear that at present the EC is more impressed with the negative political consequences of such negotiations than on their potential economic benefits. Therefore this section also discusses the political considerations which seem to impede the progress of preliminary talks.

### *Major Economic Issues*

To understand the major economic issues in the CMEA-EC dialogue it is useful to begin with some of the basic characteristics of the trade between countries in these two regions. Table 1 contains trade data for 1965-66 and 1974-75 for all West European Trade with CMEA countries, about 60 percent of which is EC-CMEA trade.<sup>17</sup>

TABLE 1.—WEST EUROPEAN TRADE WITH ALL OF CMEA, THE SOVIET UNION, AND THE REST OF CMEA, AVERAGES FOR 1965-6 AND 1974-5.

[In current dollars or percent of current dollar totals]

SITC <sup>1</sup>	All CMEA		U.S.S.R.		Other CMEA	
	1965-6	1974-5	1965-6	1974-5	1965-6	1974-5
<b>West European exports:</b>						
0-9, million of current dollars.....	3,022	19,509	934	7,692	2,088	11,814
Of which, (percent of total)—						
0+1.....	.132	.058	.103	.054	.145	.061
2+4.....	.105	.042	.088	.027	.113	.056
3.....	0	.009	0	.003	0	.012
5.....	.129	.142	.125	.104	.131	.167
7.....	.345	.336	.410	.368	.316	.315
6+8+9 <sup>2</sup> .....	.286	.410	.274	.444	.291	.388
<b>West European imports:</b>						
0-9, current dollars.....	3,607	16,558	1,564	7,694	2,043	8,863
Of which, (percent of total)—						
0+1.....	.210	.107	.063	.028	.323	.177
2+4.....	.250	.150	.356	.201	.169	.107
3.....	.202	.342	.321	.529	.111	.180
5.....	.043	.057	.020	.037	.061	.074
7.....	.051	.091	.031	.047	.066	.139
6+8+9 <sup>2</sup> .....	.232	.252	.210	.158	.248	.333

<sup>1</sup> SITC categories: 0+1—Food, live animals, beverages, and tobacco; 2+4—Crude materials, excluding fuels, and animal and vegetable oils and fats; 3—Mineral fuels, lubricants, and related materials; 5—Chemicals; 6+8—Manufactured goods classified chiefly by materials, and miscellaneous manufactured goods; 7—Machinery and transportation equipment; and 9—Goods not elsewhere classified.

<sup>2</sup> The 1965-6 data were broken down into SITC 6+8 and 9, while the 1974-5 data were broken down into SITC 6, and 8+9. Therefore I have simply combined all 3 groups for purposes of comparison here.

Sources: 1965-6 data: Paul Marer, "Soviet and East European Foreign Trade" (Bloomington: Indiana University Press<sup>\*</sup> 1972), 224, 231, 233, and 239. 1974 data: United Nations Economic Commission for Europe (UNECE), "Economic Bulletin for Europe" (prepublication copy), vol. 27(1975), 67-8. 1975 data: UNECE, "Economic Bulletin for Europe" (prepublication copy) vol. 28(1975), table 3.4.

West European exports to CMEA, and to the USSR and other members separately, are highly concentrated in manufactures, 76 percent in 1965-6 and almost 89 percent in 1974-5. And it is here in technology-bearing machinery, equipment, and intermediate goods (such as chemicals) where Western Europe hopes to continue to develop export markets in the CMEA countries.

<sup>17</sup> I have resorted to SITC data for all of Western Europe in order to include 1975 data, since those data are not yet available for trade of the EC 9 with CMEA, and since 1975 was an important year in East-West trade. In the last year for which I have comparable data, 1973, the structure of all West European trade with CMEA and EC-9 trade with CMEA is virtually identical on exports and very close on imports. The discussion focuses here on the structure of trade, therefore these data are adequate.

West European imports from CMEA differ in their structure for the USSR and the remaining CMEA members. About half of the imports from the USSR are liquid fuels, primarily oil, but with an increasing amount of natural gas; in addition some primary products (SITC 2+4) are important such as timber and plant fibers. Imports from the small CMEA countries show no remarkable concentrations in one product group, as one might expect given the resource endowments of those countries. Imports of manufactures are much more important than from the USSR, and the share has increased substantially, from 38 percent in 1965 to 55 percent in 1974-5. In addition the small CMEA countries rely on food and beverages (fruit, vegetables, meat, and live animals) for a substantial portion of their export proceeds, 18 percent in 1975-4; although that has fallen from 32 percent in 1965-6.

The most important issue for the EC in negotiations with the CMEA countries would probably involve improving access for EC manufactures on CMEA markets. This could mean, for example, more industry representatives with offices in the CMEA capitals; better information on plans and product demands of enterprises, associations, and ministries; and possibly even some limited input into the planning process through, for example, a CMEA-EC joint commission. EC interests in securing fuels and primary products might translate in the negotiations into discussions on long-term contracts, direct investment in the Soviet Union, and so on. Here there would be much less controversy than in matters concerning the first issue.

Finally, what the trade data do not show is the EC firms' interest in investments in CMEA through joint ventures or other nonparticipatory forms of industrial cooperation. Here also one might expect that in the negotiations the EC might seek mechanisms to ease access to CMEA factors of production.

The CMEA countries bring different interests to the negotiations, and there are sharp differences in the concerns of the USSR and Eastern Europe. The Soviet Union is an enormous country with an abundance of natural resources, and it can be expected to push hardest on interests which follow naturally from its comparative advantage. The Soviets will show an interest in enormous projects on Soviet soil where western money capital and machinery exploit primary product and fuel resources now, with the resulting products shipped to West Europe later. Issues surrounding those projects—credits, EC-wide coordination of supply of machinery and demand for the products, government participation, and so on—will dominate much of their discussions at the sessions. Soviet comparative advantage lies primarily in natural resources and they will seek to negotiate ways to use international trade and capital to exploit those resources.<sup>18</sup>

Unlike the Soviet Union, the other CMEA countries rely for a substantial portion of their foreign exchange earnings in Western Europe on agricultural and food products (included in SITC 0, 1, and 4), and exports of those products run head-on into the EC Common Agricultural Policy (CAP) which is undoubtedly one of the

<sup>18</sup> For a strong statement of that position see, e.g. the recent article by V. Alkhimov (Deputy Minister of Foreign Trade, USSR), "Razvitiia vneshneekonomicheskikh svyazei SSSR v svete reshenii XXV s'ezda KPSS," ("The Development of the Foreign Economic Ties of the USSR in Light of the XXV Congress of the CPSS"), *Vneshniaia torgovlia* (7/76), 2-9.

most effective Community-wide policies which have been enacted.<sup>19</sup> The small CMEA countries, and for that matter the U.S., would very much like to see changes in CAP, but the complex and important internal political issues surrounding it preclude changes in response to CMEA pressure.

With the exceptions of Poland and Romania, the small CMEA countries' export prospects in primary products and fuels are practically nil. What is left then is manufactured goods. Consequently in comparison to the Soviet Union, Eastern Europe can be expected to bring to the negotiations a much stronger interest in discussing the CAP, and a much stronger need to obtain concessions for its manufactured goods exports.

There is, then, no obvious commonality of interests between the small CMEA countries and the EC, however there may be some grounds for negotiations, at least in the area of manufactured goods. The burgeoning industrial cooperation agreements between East and West have proved that the small Eastern European countries do have a relative abundance of cheap labor, which can best be exploited in a multiplicity of small cooperation agreements between a number of enterprises. It may be therefore that the small CMEA countries and Western Europe will find their common interests in negotiating better conditions for the realization of these types of agreements as a way to increase exports of manufacturers to Western Europe. These are far less dramatic than the large agreements which interest the Soviets, but they can be quite profitable to both sides.

These are the major issues which negotiations would touch on, and the list could be extended. The Soviet Union in particular seems to see a great deal of potential for mutual gain from economic cooperation in Europe, and it envisages large projects not only in primary products, but in other areas such as research and development, transportation, power transmission, and the environment; and has pushed some of these projects for years.<sup>20</sup> And one can see in the CMEA draft agreement that the major issues which interest the USSR and the other CMEA countries are all included.

For purposes of this paper it is not important to list all of the issues which would come up in the negotiations; what is important is to realize that there are major substantive issues with which negotiations could deal. One well known datum to keep in mind here is that, measured by the relative proportions in total trade, trade with CMEA is not nearly as important to the EC as trade with the EC is to CMEA. About 5% of EC trade is with CMEA, and about 15% of CMEA trade is with the EC. By that measure the potential relative

<sup>19</sup> The CAP consists of a system of support mechanisms for intra-EC agricultural prices and a system of variable levies to make sure that imported prices stay above internal prices, thus guaranteeing an advantage to domestic producers. In recent times as world agricultural prices have risen dramatically, the CAP has worked in the opposite direction by putting levies on exports in order to divert potential exports to the domestic market, thus keeping domestic prices below world market prices for many products. This latter feature gives a rather ambiguous character to the CAP since when world market prices for agricultural goods are quite high (compared to intra-EC prices), the CAP diverts potential EC agricultural exports to the rest of the world as a consequence pushing up prices of those products; on the other hand it diverts demand away from potential importables and drives those prices down. For a brief discussion of the CAP see Michael Berendt, "The Common Agricultural Policy," in *European Studies*, No. 19 and No. 20 (1974). There is also some more detailed useful material in a document published by the EC Commission entitled "Stocktaking of the Common Agricultural Policy," 2/75 Supplement to the *Bulletin of the European Communities*.

<sup>20</sup> For two recent discussions which outline the Soviet view of what Europe could be, see I. Kormnov and I. Petrov, "Razriadka napriazhennosti i khoziaistvennoe sotrudnichestvo," ("Relaxation of Tensions and Economic Cooperation,"), *Voprosy ekonomiki* (2/76), 57-67; and Y. Shirayev and A. Ivanov, Detente: Economic Implementation," *International Affairs* (10/75), 23-32.

economic benefits of any settlement they reach are probably much smaller for the EC than the CMEA. Consequently while there are substantive economic issues of interest to both sides, they may seem much more important to CMEA than to the EC. It is probably for this reason that the EC shows much more concern for the political consequences of negotiations than the CMEA; it can afford it.

### *Political Issues*

There are political consequences to both sides from negotiations. For the CMEA, particularly the Soviet Union, it means recognition of a political-economic union which they have scoffed at for years. A Soviet decision to accede to the Common Commercial Policy, negotiate with the Community as a whole, and cease attempts to negotiate on trade matters with individual EC members, would serve to strengthen the power of the Commission relative to individual member states. This plus the mere fact of recognition would seem to be high political costs for the USSR. It is not clear if the economic benefits of negotiations would compensate. The EC countries need primary products and fuels, which the USSR has, and the lack of a framework would hardly act as a major impediment to investment and trade in those products. On the other hand, as long as there are major restrictions on U.S. government guaranteed credits, then the EC as a whole and Japan are the only two groupings large and rich enough to finance the large projects the Soviets have in mind; thus the Soviets could perceive large potential economic benefits of working through the EC.

A second, and possibly strong argument, is that the economic costs to the other CMEA countries of not negotiating with the EC are potentially quite large, large enough to have political consequences in Eastern Europe, and therefore political consequences for the USSR. The small CMEA countries are seeking to penetrate markets of larger countries in an increasingly powerful EC. East Europe has pushed the Soviet Union for years to recognize the reality of the EC and deal with it.

The catalyst seems to have been enlargement from six to nine members in the EC. Before enlargement the EC contained three of the top five destinations (in value terms) of total CMEA exports to developed market economies (dme's). Enlargement added yet another: England. In addition it was not clear then, and still is not clear, what effect the Association Agreements between the EC remaining EFTA countries would have on CMEA exports (which includes Finland the fifth major export source; Japan is the only major dme trade partner not affected).

These considerations served as the backdrop for what appears to have been a very important conference in Moscow in October 1972 attended by economists from all of the CMEA countries and Yugoslavia on the topic of "Problems of Economic Cooperation Between Eastern and Western Europe."<sup>21</sup> The themes common to most of the papers by the East European economists were that the EC was on its way to encompassing most of the major western export markets

<sup>21</sup> The papers are published in Shmelev (ed.), *Problemy ekonomicheskogo sotrudnichestva* . . .

of CMEA, and that it was time therefore not only to recognize the existence of the EC but to negotiate with it and to negotiate with it as a united organization. The words of two Czech economists are representative of the views of many economists there:

It seems to us that to ignore the existence of the EC in the new situation would be extremely short sighted. However it is inadequate to only passively recognize the existence of the EC; in the future it would be appropriate to relate to it actively, that is to endeavor through coordinated actions of the member-countries of CMEA to establish stable institutionalized contacts to have an affect on the EC with the goal of preventing the . . . negative consequences connected with its enlargement.<sup>22</sup>

The Hungarian economists in attendance were very strong on coordinated action toward the EC:

Experience proves that a coordinated trade policy of the capitalist countries can be opposed with success only by a coordinated trade policy of the socialist countries. It would be precisely thanks to that [policy] that the EC would be forced to refrain from introducing a common commercial policy in relation to the socialist countries.

The socialist countries can more effectively defend their interests only if individual member-countries of CMEA will act, operating on the strength of the entire socialist community, and more than that, coordinate the content and time period in force of specific trade policy measured.<sup>23</sup>

The position of other East European economists could be cited, but it would be repetitive, since they all contend in one way or another that it is time for the CMEA countries to recognize the EC—in particular its Common Commercial Policy—and to realize that only a socialist “common” commercial policy can adequately fight a capitalist “common” commercial policy.

That conference in 1972 among primarily academic economists who probably advise policy makers, but do not themselves make policy, cannot be taken as the final word on East European policy towards the EC and towards a coordinated CMEA approach to the EC. The consequences of enlargement may look less frightening five years later, and the consequences of coordinated action may seem somewhat more threatening to the sovereignty of individual East European countries.

As far as I can see at least in the Hungarian press there is very little talk now of the need for coordinated action towards the EC.

Nevertheless there is probably a substantial base of support in Eastern Europe for carefully using the CMEA to negotiate with the EC. Eastern Europe has genuine negotiable needs in its trade with the EC, which become more important as the power of the CCP and CAP grow. The size of individual East European countries precludes their negotiating effectively with the Community as a whole. If the small CMEA countries seek concessions from the EC on the CCP or CAP, one obvious approach for them is to enlist the aid of the Soviet Union through CMEA.<sup>24</sup>

<sup>22</sup> I. Nikl and S. Tikal, “Puti rasshireniia ekonomicheskoi svyazi mezhdu vostochnoi i zapadnoi evropoi,” (Means of Expansion of Economic Connections between Eastern and Western Europe”), in Shmelev (ed.), *Problemy ekonomicheskogo sotrudnichestva* . . . , 65.

<sup>23</sup> Zh. Khavash, “Nekotorye uslovia dal'neishego razvitiia ekonomicheskikh svyazi ‘Vostok-Zapad’” (“Several Conditions of the Further Development of ‘East-West’ Economic Relations”), Shmelev (ed.) *Problemy ekonomicheskogo sotrudnichestva* . . . , 91.

<sup>24</sup> One of the few works I have seen which shares my view of the East European position on CMEA-EC negotiations is Peter Marsh, “The Integration Process in Eastern Europe 1968 to 1975,” *Journal of Common Market Studies*, XIV, 4 (June 1976), 311-35. Also the Pinders have suggested that for reasons already outlined above the East Europeans unofficially suggested to EC officials that they would like to see CMEA-EC negotiations on a framework of principles, within which detailed bilateral negotiations could ensue between the Community and individual CMEA members. See John and Pauline Pinder, *The European Community's* . . . , 29-30.

EC policy-makers seem to assess Eastern Europe's position somewhat differently. They see the major potential political cost of negotiations with the CMEA to be that such negotiations might serve as a way for the Soviet Union to enhance its economic and political power in Eastern Europe, something which Eastern Europe does not want, and which they therefore should do everything possible to discourage.<sup>25</sup>

What is involved here is a basic perception which EC politicians and many scholars have concerning the CMEA which is hopefully not overly simplified in three hypotheses:

1. The CMEA as an organization is powerless on substantive issues in the area of economic relations; member states retain all the powers of decision in those areas.

2. The small Eastern European countries prefer that state of affairs.

3. Actions of the EC could enhance the power of CMEA, and therefore the power of the USSR in the economic affairs of the small CMEA countries.

It has already been shown that No. 2 is probably not true at least on the particular issue of CMEA-EC relations. The first point represents the conventional wisdom, and in fact some of my writing supports such a view.<sup>26</sup> Nevertheless it would appear that in the last five years the CMEA has begun an important transformation under Soviet guidance which could, in the end, result in an extremely powerful supranational organization; and Eastern Europe may be cautiously supporting those developments. To the extent this is true it means that the EC, like the CMEA did with the EC earlier, is ignoring recent developments or at least underestimating their importance for the power of CMEA as an organization. A more accurate understanding of those developments, which will come with time, could substantially change EC policy towards CMEA. The following section addresses itself to recent developments in CMEA in order to show how the functions of that organization may be changing.

## RECENT MOVES TOWARDS STRENGTHENING THE CMEA

### *Introduction*

The history of CMEA through the late 1960's has been discussed in detail by many authors and only the few points of importance to this analysis need be recounted here.<sup>27</sup> Throughout that period CMEA was an extremely weak organization, at first one of several vehicles for Soviet control of Eastern Europe, and later an organization where some genuine discussion on the fundamental economic issues surrounding CMEA trade occurred, but with no action. CMEA had, and has, no powers to do more than recommend policies to the various countries on substantive economic issues concerning trade, specialization, prices, currency, and so on. Important decisions required bilateral or multilateral negotiations among decision-makers

<sup>25</sup> See for example I. G. John, "The Soviet Response . . .", 53ff and M. Baumer and H. D. Jacobsen, "Institutional Aspects . . .", 442-3.

<sup>26</sup> Edward A. Hewett, *Foreign Trade Prices in the Council for Mutual Economic Assistance* (Cambridge: Cambridge University Press, 1974), Chapter I.

<sup>27</sup> See, for example, M. Kaser, *Comecon* (2d ed.; Oxford: Oxford University Press, 1967); E. A. Hewett, *Foreign Trade Prices . . .*, Ch. I and VI; and Z. M. Fallenbuhl, "East European Integration: COMECON," in U.S. Joint Economic Committee, *Reorientation and Commercial Relations of the Economics of Eastern Europe* (Washington: Government Printing Office, 1974), 79-134.

in CMEA countries; and while CMEA itself could bring representatives of those decision-makers together, it could not make decisions, nor could it force individual countries to make decisions. It had, and has, no supranational powers.

The highest organ in CMEA is the *Council* (Soviet) which is comprised of delegations from each country led by a deputy prime minister. In the 1950's and 1960's there were some sessions of the Council where the prime ministers themselves attended; several meetings of party leaders (sometimes as Extraordinary Sessions of CMEA); and one Extraordinary Session where both party and government leaders attended (in 1969, the XXIII Session). It was in these forums that collective decisions on substantive issues were made.<sup>28</sup>

Usually the Council meets once a year, and in the interim an *Executive Committee* comprised of the deputy ministers watches over the progress concerning Council recommendations. In addition there is a *Secretariat* of the Council with the usual duties. Finally there are *Standing Commissions* which are devoted to certain sectors (for example, electric energy, machine building, agriculture, and ferrous metallurgy) or certain functional areas (for example, foreign trade, standards, statistics, and currency questions). Each of these Standing Commissions has as its task the encouragement of cooperation in the area of its concern (specialization in production where that applies), and it is composed of representatives from appropriate organizations in each country. The Standing Commissions derive their power from, and are subordinate to, the Council, consequently they have absolutely no decision-making power; they can only *recommend*, for example, specialization in the production of certain products in an industry.

The "Basic Principles of the International Socialist Division of Labor" (hereafter, simply Basic Principles) serve as an excellent example of the powerlessness of CMEA during these years. This was a set of recommendations on specialization in the CMEA which it took four years to negotiate, and which proposed, in a set of internally contradictory statements that the CMEA countries should specialize and trade according to comparative advantage in order to reap the gains from trade in the form of increased efficiency.<sup>29</sup> The recommendations were about a general methodology to guide specialization so that efficiency would be increased without hampering balanced development of any CMEA member. The Standing Commissions were to produce real recommendations on specialization for their sectors; but the Basic Principles were too vague and contradictory to serve that purpose. In any event, CMEA could only use the Basic Principles to generate recommendations with no binding force on individual states.

Khrushchev, dissatisfied with the essentially meaningless propositions in the Basic Principles, proposed in 1962 that the CMEA undertake to coordinate investments in large projects as a tangible way to guarantee specialization and improved efficiency. But Romania successfully fought off what it considered to be an attack on its sovereignty, and CMEA remained powerless in economic affairs.

<sup>28</sup> For details, see E. A. Hewett, *Foreign Trade Prices . . .*, 7-8.

<sup>29</sup> For a discussion, see E. A. Hewett, *Foreign Trade Prices . . .*, 3ff.

### *The Comprehensive Program*

It was in 1969 in the aftermath of Czechoslovakia that the USSR began a move to strengthen CMEA. The April 1969 Extraordinary Session (XXXIII) of party and government leaders initiated a major discussion on reform of CMEA institutions which resulted finally in 1971 in the "Comprehensive Program,"<sup>30</sup> This is an enormous, complicated, and contradictory plan for a total reform of CMEA through the 1980's. There is neither space nor need to discuss most of its provisions here, and instead the focus is on those of particular interest to what has transpired since then in the area of plan coordination.

It was the Soviet view, which was built into parts of the Comprehensive Program, that there were substantial gains possible from improved economic cooperation among the CMEA countries and that plan coordination would most effectively allow the CMEA members to capture those gains. In particular the Comprehensive Program proposed that the CMEA countries undertake to coordinate their long-term and five-year plans much more carefully, that they undertake joint prognoses on major economic aggregates, that they actually undertake joint planning for the production and consumption of selected products, and that they conduct regular exchanges of information on the nature of economic reforms in their respective countries. While these activities would involve coordination of efforts at various levels in the planning hierarchies of each country (ministries, departments, combines, enterprises), the Soviet view was that the major effort would be at the level of central planners with extensive consultations with all other levels.

Several tangible changes in CMEA surrounded the approval of the Comprehensive Program at the XXV Session of CMEA in 1971. The International Investment Bank had begun operation that year, its purpose being to provide financing for investments of interest of more than one CMEA member, and ultimately to finance large CMEA-wide investment projects connected with the Comprehensive Program.<sup>31</sup> Also, several Committees on Cooperation were set up, one on Planning and one on Science and Technology (hereafter: Cooperation Committee on Planning and Cooperation Committee on Science and Technology). These are both important committees, primarily because the delegates from each country are the heads, respectively, of each country's planning committee and each country's highest organ concerned with science and technology. In the CMEA hierarchy they are considered as committees of the Council, and they can give tasks to the Standing Commissions, as well as submit recommendations for the consideration of the Executive Committee and the Council.<sup>32</sup>

<sup>30</sup> *Kompleksnaia programma dal'neishego uglubleniia i sovershenstvovaniia sotrudnichestva i razvitiia sotsial'no-ekonomicheskoi integratsii stran-chlenov SEV (Comprehensive Program for the Further Deepening and Improvement of Cooperation and the Development of Socialist Economic Integration of the Member-Countries of CMEA)* Bucharest: Soviet ekonomicheskoi vzaimospomochi, 1971). Unless otherwise indicated, this discussion is based on E. A. Hewett, *Foreign Trade Prices* . . . 181-190.

<sup>31</sup> This was approved in 1970 and was the result of a proposal coming out of one of the seven working groups whose reports comprised the final Comprehensive Program. Some of the reports, or part of them, were approved at the XXIV Session of CMEA in 1970, and the IIB proposal was one of those.

<sup>32</sup> Their formal names are *Komitet SEV po sotrudnichestvu v oblasti planovoi deiatel'nosti* (Committee of CMEA on Cooperation in the Area of Planning Activity) and *Komitet SEV po nauchno-Tekhnicheskomu sotrudnichestvu* (Committee of CMEA on Scientific-Technical Cooperation). The distinction between these Committees and the Standing Commissions is important since the former have much greater authority. Also one would suspect that *de facto* the Cooperation Committee on Planning is the most powerful single organ in CMEA, possibly more so than the Executive Committee, since delegates are probably much more influential in their own countries than the deputy prime ministers who sit on the CMEA Executive Committee.

No other major changes occurred around this time. There was the normal spate of articles on the progress made to implement the Comprehensive Program, and it appeared that nothing terribly substantive would emerge. However Soviet pressure to transform CMEA continued and intensified after the signing of the Comprehensive Program and now, six years later, it is evident that indeed important changes have begun to come about.

### *New Moves To Implement the Comprehensive Program*

There are a number of indications of significant changes in CMEA. Every Session of the Council since 1970 has been attended by the prime ministers themselves. The Cooperation Committees have taken on a fairly important role, and a new one concerned with "Material-technical supply" has been added.<sup>32a</sup> In particular they prepared a rudimentary 1976-80 five-year plan for all the CMEA countries which committed each country to substantial investments and other actions, which the countries in turn wrote into their five year plans; there is, in other words, now a five year plan for CMEA. A type of long-term plan is also emerging under the title of "Target Programs" (*tselovye programmy*, in Russian; *célprogramok* in Hungarian) which outline long-term plans in selected sectors.

There are other symptoms of the changes, but these are among the most important, and in discussing them, one can get a genuine feeling for the nature of the changes which have occurred to date. Certainly, as will be evident, there is much in these "new" efforts which simply represents fancier titles for old programs, combining separately negotiated projects under one heading, and so on. But what is being discussed here is important not so much for what has been done concerning 1976-80, but for the framework which could be used to generate some fairly comprehensive, joint plans for the 80's.

#### THE CMEA "FIVE-YEAR PLAN"

In June 1975 the XXIX Session of CMEA passed the "Coordinated Plan of Multilateral Integration Measures for 1976-80" (hereafter: Coordinated Plan).<sup>33</sup> Its public roots lie in the XXVII Session in June 1973 where the Council directed the Cooperation Committee on Planning to ". . . focus its activity on elaborating effective ways of resolving the problems of economic cooperation in the area of satisfying the demands of the member-countries of CMEA for basic forms of energy and fuel, including atomic energy, and the deepening of cooperation of the countries in the development of primary product sectors."<sup>34</sup>

By June 1974 at the XXVIII Session there was already discussion of a "Coordinated Plan"<sup>35</sup> Then at the XXIX Session in June 1975, Baibakov (Chairman, USSR Gosplan) reported on the work of the Cooperation Committee on Planning and submitted a draft proposal

<sup>32a</sup> This committee was set up in 1974 at the XXVIII Session of CMEA. At present it is not apparent what its role will be.

<sup>33</sup> In Russian: "Soglasovannyi plan mnogostoronykh integratsionnykh meropriatii na 1976-1980gg". There is no easy translation for "Soglasovannyi"; it literally means "agreed upon". I am going by the Hungarian word for the same plan, "koordinált", or "coordinated".

<sup>34</sup> XXVII Session Soveta ekonomicheskoi vzaimopomoshchi" (XXVII Session of the Council for Mutual Economic Assistance"), *Ekonomicheskaja Gazeta*, no. 24 (June 1973), 20.

<sup>35</sup> N. V. Faddeev, "Vo imiaikh velikikh tselei," ("In the Name of Great Goals"), *Ekonomicheskaja gazeta*, no. 28 (July 1974), 20.

for the Coordinated Plan; which the Session accepted.<sup>36</sup> The plan itself has not been published, so it is necessary to rely on secondary sources for its content; unfortunately no authors have fully discussed the entire plan, so what follows is a mixture of piecing together several sources and guessing.

There are several sections to the plan which cover international specialization and cooperation in production; joint projects for developing major primary product and fuel resources, primarily in the USSR, but also in Cuba and Mongolia; and cooperation in scientific-technical matters. In each case there are supposedly agreed upon measures with corresponding resource commitments built into the five-year plans of each CMEA country participating in the process.<sup>37</sup>

The section on the joint projects appears to be by far the most tangible and carefully worked-out part of the Coordinated Plan.<sup>38</sup> There are ten projects included in this section, of which no more than eight actually have accompanying contracts among the participating countries. Eight projects are contemplated for the USSR, of which the five on which arrangements seem fairly advanced are:

1. The Ust' Ilimsk *Kombinat* for the production of Cellulose.
2. The Kiembraevskii Asbestos *Kombinat*.
3. A 750 KW electricity transmission line from Vinitza through the Western Ukraine to Albertersha in Hungary.
4. The Orenburg gas pipeline to the western border of the USSR.
5. Expanded capacity for the production of iron-bearing primary products and several types of ferro-alloys.<sup>39</sup>

Evidently three other projects to be on Soviet soil are now being negotiated, including one for producing isoprene rubber and one for fodder yeasts. In the case of the isoprene rubber, construction on the project will not begin until after 1980.<sup>40</sup>

In addition agreements have been signed for the expansion of Nicle production in Cuba through the reconstruction of some enterprises and the construction of one new one. A project in Mongolia concerning coking coal is under negotiation. Also, projects are under consideration on copper, molybdenum concentrate and titanium dioxide.

Of the probably eight projects where actual funds have been committed the estimates are that investment costs will total 8-9 billion

<sup>36</sup> For a discussion of Baibakov's draft see N. K. Baibakov, "Soglasovannyi plan mnogostoronnikh integratsionnykh meropriatii—novaia stupen' razvitiia sovместnoi planovoi deiatel' nosti stran-chlenov SEV," ("The Coordinated Plan of Multilateral Integration Measures—A New Stage in the Development of Joint Planning Activity of the Member-Countries of CMEA," *Planovoe Khoziaistvo* (9/75), 9-12. A discussion of the XXIX Session can be found in N. Ptikhin, "XXIX Sessia Soveta Ekonomicheskoi Vzaïmopomoshchi, ("The XXIX Session of the Council for Mutual Economic Assistance"), *Vneshniaia torgovlia* (10/75), 2-7.

<sup>37</sup> N. Baibakov, "Soglasovannyi plan. . ."

<sup>38</sup> This discussion on the joint projects contains information pieced together from four sources: I. Inozemtsev, "Reshenie toplivnoenergeticheskoi i syr'evoi problem—na planovoi osnove," ("The Solution of Fuel-Energy and Primary Product Problems—on a Planned Basis."), *Ekonomicheskoe sotrudnichestvo stran-chlenov SEV* (4/75), 14-19; K. Grikhish and I. Portiannikov, "Nekotorye voprosy koordinatsii narodnokhoziastvennykh planov stran-chlenov SEV na 1976-1980 gg.," ("Several Questions about the Coordination of Economic Plans of the Member-Countries of CMEA for 1976-1980"), *Ekonomicheskoe sotrudnichestvo* . . . (5/75), 43-5; B. Ladygin and O. Rybakov "XXV s'ezd KPSS i uglublenie sotsialisticheskoi ekonomicheskoi integratsii," ("The XXV Congress of the CPSS and the Deepening of Socialist Economic Integration"), *Voprosy ekonomiki* (11/76), 76-84; and L. I. Zorin, "Na vzaimovыgodnoi osnove," ("On a Mutually Profitable Basis"), *Vneshniaia torgovlia* (8/76), 10/13.

<sup>39</sup> These include several cooperation projects with West German enterprises as well as a contemplated CMEA project, although the latter has been postponed until after 1980. (interview material)

<sup>40</sup> Ladygin and Rybakov, "XXV s'ezd . . .", 81.

Transferable Rubles (TR's) over the 1976-80 period.<sup>41</sup> TR's are not like other Rubles, so it is risky to say what that means in terms of total CMEA investment expenditures. But I would say that 9 billion TR's will work out at somewhere between 1% and 2% of the total investments of the CMEA countries during 1976-80.<sup>42</sup> So the Coordinated Plan is a five-year plan for a very small part of investments.

Apparently the Soviet Union is paying about half of the investment costs.<sup>43</sup> The Eastern European countries will pay their share either by shipping products necessary for the construction projects themselves such as metal products, bulldozers, cement, cables, pipes, and so on; consumption goods which will be sold in the USSR to finance the construction; and in some cases, labor. Hungary, for example, had 1000 workers working on Orenburg in 1976,<sup>44</sup> and they had planned to ship 700 Ikarus buses to the Soviet Union in 1976 as partial payment for the pipeline.<sup>45</sup> They had also shipped in 1975 1 thousand tons of structural steel for the plant.<sup>46</sup> The IIB is providing hard-currency credits to the CMEA countries so that they can buy the equipment needed for these projects which they themselves do not produce.

Repayment by the USSR for all of the projects is in the form of the output, usually spanning a twelve year period. For example, in the case of Ust'-Il'msk, repayment will be over twelve years at an average payment to every participating country of 50 thousand tons a year.<sup>47</sup>

In some cases the projects will have a substantial impact on production and trade within the CMEA in the products in question. For example the Nickle project in Cuba is projected to increase production of Nickle by 130 thousand tons per year, which is over three times the level of current Cuban production (36.8 thousand tons per year) and over half of the level of 1975 Soviet production (210 thousand tons).<sup>48</sup> The Orenburg pipeline's completion will raise Soviet shipments of natural gas to Eastern Europe by 15.5 thousand cubic meters per year, which is about 1.5 times current shipments.<sup>49</sup> Finally, the projected output of 500 thousand tons per year of cellulose from Ust'-Il'msk is

<sup>41</sup> The 9 Billion TR figure can be found in several places, e.g. Ladygin and Rybakov, "XXV s'ezd . . .", and in the communique on the XXV Session (*Ekonomicheskaja gazeta*, 27 [June 1975], 3). The low figure is from L. I. Zorin, "Na vzaimovyygodnoi osnove," 11. He makes it clear that this figure is for only eight of the ten projects eventually contemplated, and it could be that the other sources are including estimates for the two projects not yet finalized.

<sup>42</sup> An official of the IIB has estimated that during 71-5 the total investment of all CMEA countries was about 500 billion TR's. (See A. Belichenko, "Investitsionnyi bank-vazhnyi instrument sotsialisticheskoi ekonomicheskoi integratsii," ("The Investment Bank—An Important Instrument of Socialist Economic Integration,"), *Vneshinaia torgovlia* [8/76], 28-32). That figure is actually about 1/2 of what obtains by taking total investment figures in national currency and converting at the official exchange rate into Soviet Rubles (which have the same gold content as TR's, hence the same official exchange rate). But those rates are meaningless, and I suspect that Belichenko was using the coefficients which are used in CMEA to convert non-commercial transactions into TR's. In those cases, the procedure is to convert at official exchange rates into Rubles, then divide by a coefficient of 2 to 2.2 (See Adam Zwass, *Monetary Cooperation Between East and West* [White Plains: International Arts and Science Press, 1975], 75-6). That would give about 550 billion TR's.

Then if that figure is right, the 9 billion TR cost of the joint projects would have been a little less than 2 percent of 1971-5 investments in CMEA as a whole, therefore probably closer to 1.5 percent of 1976-80 investments.

<sup>43</sup> L. I. Zorin, "Na vzaimovyygodnoe osnove," 11.

<sup>44</sup> D. Seker, "Novye cherty y ekonomicheskoi sotrudnichestve," ("New Features in Economic Cooperation"), *Ekonomicheskaja gazeta*, 50 (December 1976), 20.

<sup>45</sup> *Figyelő* (2/25/76), 7.

<sup>46</sup> L. Shinkarev, "Ust'-il'meskii fundament," ("The Ust'-Il'msk Foundation"), *Ekonomicheskoe sotrudnichestvo stran-chlenov SEV* (3/75), 80.

<sup>47</sup> Shinkarev, "Ust'-il'mskii fundament", 80.

<sup>48</sup> The estimate of the increase in nickle production is from Ladygin and Rybakov, "XXI s'ezd . . .", 81. The estimate of current nickle production is from U. S. Central Intelligence Agency, *Handbook of Economic Statistics 1976* (ER-76-10481; 1976), 98.

<sup>49</sup> The estimate of the increase in gas shipments is from Grikkish and Portiannikov, "Nekotorye voprosy . . .", 45. Estimates of 1975 Soviet gas shipments to Eastern Europe are 10.691 thousand m<sup>3</sup>, from *Vneshinaia torgovlia SSSR za 1976 godu*.

somewhat less than 10% increase over total CMEA production of Cellulose in 1974.<sup>50</sup>

In summary, one could say that the joint projects of the Coordinated Plan represent only a tiny portion of total investment in the CMEA countries in 1976-80, but should they be realized as planned, their impact on the output of particular products will be substantial. This is by far the best articulated part of the Coordinated Plan, and judging from the multitude of articles, the part about which the Soviets are the most proud. It is not all new; some of the projects had been signed before the Coordinated Plan was even officially titled.<sup>51</sup> But the projects are quite possibly very important for what they indicate could happen in CMEA in the future. Just as the enormous planning apparatus in the USSR began in plan construction for electrification, that is, for an energy project, so could planning in CMEA conceivably develop from these modest beginnings.

The other parts of the Coordinated Plan appear to be far more nebulous; they are rarely discussed, and we will not discuss them here. Also, there is, at least formally, more to what is called "plan coordination" than the Coordinated Plan, such as discussions on trade in major products over the next five years, R&D plans, and so on. But the Coordinated Plan appears to be the most effective part of plan coordination activities in the CMEA; it is certainly the part to which the Soviets give the most attention.

#### THE CMEA "LONG-TERM PLAN"

In addition to the five year plan, the XXIX and especially the XXX Session (July 1976) of CMEA discussed a set of long-term plans which have come to be grouped under the heading of "Complex Target-Programs."<sup>52</sup> These are programs spanning 10-15 years designed to combine forces in CMEA for the solution of key problems associated with their further industrialization. There are five programs:

1. *Fuel, Energy and Primary Products.*—The main goal here is to assure adequate supplies of these materials over the long term. The emphasis is both on rational use and economizing on the demand side, as well as increasing domestic fuel supplies in each CMEA country. This program also includes all provisions on atomic energy.

2. *Machine-building.*—Here the purpose is to develop supplies of machinery in deficit areas, particularly as they relate to the other Target Programs.

3. *Agriculture and Food Supply.*—This program is aimed towards attaining CMEA self-sufficiency in cereals, fodder, animal products, and other food products, as well as forming sufficient reserves.

<sup>50</sup> The projected output of Ust'-Ilimsk is from Zorin, "Na Vzaïmovygodnoi osnove," 11. The estimated output for all of CMEA is taken from separate country data in *Statisticheskii ezhegodnik stran chlenov SEV za 1975 godi*. (Statistical Yearbook of the Member-Countries of CMEA for 1975).

<sup>51</sup> For example, the general agreement on building the Kiembaevski Asbestos Plant was signed at the XXVII Session of CMEA in June 1973. See V. Zolov, "Pervoe general'noe soglashenie" ("The First General Agreement,"), *Vneshniaia torgovlia* (7/73), 33-37.

<sup>52</sup> In Russian, *Kompleksnaia tsel'programmy*; in Hungarian *Komplex célprogramok*. In both cases *tsel'/cél* means goal or target. The discussion which follows is taken from János Szita, "A szocialista gazdasági integráció útján (A Kölsöbös Gazdasági Segítség Tanácsának XXX ülészaka)", ("The Road of Socialist Economic Integration [The XXX Session of the Council for Mutual Economic Assistance]"), *Közgazdasági szemle*, XXIII (9/76), 1005-29.

4. *Consumption goods*.—This project involves forecasting changes in demand, and changing the supply of consumption goods to offer a broader choice of products and higher quality products.

5. *Transport Connections*.—This program is devoted to improving substantially transport and transfer capacity in CMEA countries, since at present the projections show demand outpacing capacity in the mid-1980's.

Details on these programs really do not at this stage go much beyond what is indicated above, thus the "long-term plan" is even more embryonic than the Coordinated Plan as a five-year plan. In fact at this stage the Target Programs really appear to be statements that long-term projections in these areas indicate the need for planners to do something; just what needs to be done has not yet been planned. Still, these are potentially quite important programs for several reasons. They form an institutional basis for mutual projections of demands and supplies of important groups of products by CMEA for the CMEA countries as a whole. That means they will force discussions on shortages and surplus before they arise, not afterwards. They may indirectly influence planners to change their plans; and conceivably they could be a vehicle for pressure through the Cooperation Committee on Planning for planners to make changes in their plans. The information which comes through joint projections in such areas as energy or food could be a tremendous catalyst, forcing planners to recognize CMEA-wide problems and take CMEA-wide solutions.

Of course the Soviets are in favor of this procedure, but so might be some East European planners. For example Szita seems to be genuinely enthusiastic about the prospects of these programs, and in fact their character is very similar (in name and function) to programs undertaken in Hungary in the last decade. Eastern European industrialization prospects for the future hinge on energy and raw material imports, and if they can obtain from the USSR long-term quantitative commitments for those products, they would probably regard themselves as much better off than having to rely on world markets at uncertain prices for their new supplies. That is why the joint projects—which some view as a burden on Eastern Europe—quite possibly make good economic sense. Eastern Europe faces the certain need of energy and raw material imports and it has two choices. It could invest in industries which will produce exportables, export those goods and, depending on the terms of trade, receive a certain amount of primary products and fuels in return. Or it can invest directly in the USSR for those primary products and know with certainty what it will receive in return. The second route could be cheaper, depending on productivity in export industries, marketability of those goods and world markets, and the terms of trade in comparison to the prices on other arrangements in the deal with the USSR. At the very least there is no obvious case for saying that the joint projects are exploitative. And in fact I suspect that Szita's rather enthusiastic support of the Target Programs reflects the opinion of some planners in each East European country.

*The Significance of Recent Development in CMEA*

What is happening now in CMEA may or may not represent a move towards enhanced supranational authority for the CMEA on a broad scale. It is really too early to say with any certainty.

On the one hand it is fairly clear that the Soviet Union has begun a concerted effort to develop a planning apparatus in CMEA similar to the USSR planning apparatus. The committee structure, personnel, techniques, and tasks bear striking resemblance to the USSR planning system. One can imagine the image in the mind of some Soviets of a CMEA with a strong supra-Gosplan (The Committee on Coordination in Planning), a supra-Committee on Science and Technology (The Committee for Cooperation in Science and Technology), a supra-Price committee (not yet formed, but there are conferences of price officials), and so on. They truly believe that such a system would bring improved economic performance to all the CMEA countries individually and collectively.

But besides this belief in central planning—which goes way back in the Soviet view of the proper role for CMEA—there are other forces pushing to strengthen CMEA, of which the most important would seem to be:

1. General problems in economic performance in all save the least developed CMEA countries, primarily stemming from an inability to find an adequate source of rapid growth to substitute for exhausted reserves of surplus labor. These problems are a major concern to all CMEA politicians, particularly since in some cases they lead almost directly to political problems, such as those in Poland in 1970 and 1976. These events threaten the political and economic cohesion of CMEA, and therefore stimulate the Soviets to find solutions through CMEA to the economic problems which are among their causes.

2. The success of West European efforts at economic integration which have had two effects. Indirectly the Soviets see CMEA as a tool for competition with Western Europe, particularly the EC, and therefore at least part of the Soviet motives towards improving the functioning of CMEA have their roots in the success of the EC. Also the specific fact of the success of the EC stimulates the CMEA countries to think of strengthening their organization as a necessary bargaining tool.

3. The crisis in the world economy has had a particularly strong effect on the East European economies, but far weaker than it would have been, had not the USSR continued to ship fuels at prices below the world market (although higher than earlier). Thus there is an incentive for Eastern Europe to use CMEA as a way to reach agreements with the USSR on reducing the uncertainty of supplies of products crucial to production—fuels and primary products.<sup>53</sup>

Thus there are several sets of considerations pointing to a strengthened CMEA, and they are not all limited to Soviet aspirations for

<sup>53</sup> For elaborations of these points see, e.g., Z. M. Fallenbuehl, "East European Integration . . .", 97ff, and Peter Marsh, "The Integration Process . . ."

CMEA. But the interests of Eastern Europe lie in achieving a strengthened CMEA for a rather narrow set of products—fuels and primary products where certainty serves their purposes quite well—without simultaneously losing authority in other areas such as the sectoral product mix, the supply of consumer goods to their population, and so on.

Not all of the information is available, but so far it would appear that Eastern Europe has managed to keep the centralization of power in CMEA within the bounds they prefer. There is no coordination of annual plans, which are the operational plans in most CMEA countries that really determine what will be produced, by whom, and for whom. There is only coordination of five-year plans, and those are frequently a mixture of political posturing and serious planning which economic and political realities frequently render obsolete.

Also for the plan coordination that is most effective in CMEA—covering a five-year period—the available evidence indicates that the only serious coordinated planning occurred on the fuels and primary products, which is just where the East European planners would want such coordinated planning. Plan coordination in, say, machine-building does not seem to be much more advanced now than it was in the late 1960's.

It will be a substantial achievement if Eastern Europe can continue to walk this tight-rope of agreeing to, and possibly even encouraging, the development of coordinated planning, but directing it only towards projects it needs badly. And if that occurs, then the future for the CMEA five-year and long-term plans seems a limited, but still important one, of coordinating investment and trade in primary products and fuels.

It is impossible to predict with any certainty what will actually transpire in the future. First, public sources alone provide an incomplete indication of what has transpired in the past, and what public sources do not reveal may indicate much stronger trends than are here evident. Also events inside CMEA could change the pressures a great deal. On the one hand further unrest in CMEA could mobilize Soviet leaders to push even harder for a major recentralization of powers in CMEA as they seek to use their planning techniques to deal with the economic roots of unrest. Or the world economic crisis could eventually create unbearable tensions in the EC, say through balance of payments problems, and therefore reduce somewhat the threat of the EC for the CMEA. And it is quite conceivable that the increased role of communist parties in western Europe could significantly change the policy of the EC towards CMEA.

At the very least it seems likely that CMEA-wide planning is here to stay on a minimal scale for the medium and long-term plans. The question is what consequences that will have for East-West Trade, for relations between the EC and CMEA and, for U.S. trade with CMEA and the EC.

#### THE FUTURE OF CMEA-EC RELATIONS AND THE CONSEQUENCES FOR THE U.S.

We now turn to a consideration of what type of agreement will most likely emerge between the EC and CMEA, and an assessment of the affect that agreement would have on U.S. relations with CMEA

and Western Europe. It is useful to separate these and consider first the development of CMEA-EC relations, then their potential impact on the United States.

### *The Future of EC-CMEA Relations*

The EC so far has refused to negotiate on substantive issues with the CMEA, officially because EC leaders feel that CMEA organs are without power on most of the matters proposed for negotiations in the CMEA draft agreement. They probably believe that, but in addition, they believe that negotiations with CMEA would cause a recentralization of power in the organization.

But that seems an excessively optimistic view of the influence of the EC over the internal distribution of power in CMEA. The main forces pressuring the CMEA countries towards a centralization of some of their economic decisions lie within the CMEA or in the massive upheavals on world markets which affect CMEA. In addition the EC has exerted some influence on the distribution of power in CMEA, not through any of its decisions on negotiations, but through the enlargement to nine members, and the successes of the CCP and CAP. *In other words, it is the mere existence of an enlarged EC and the success of several of its policies affecting trade with CMEA which serve as the incentive for the creation of a meaningful common socialist commercial policy and the distribution of power in CMEA which that implies.*

Just as the Soviets earlier misjudged the strength of forces pushing towards recentralization of economic decision-making in Western Europe, the EC seems now to be misjudging similar forces pushing towards recentralization of economic decision-making in Eastern Europe. If this analysis is correct then time should erode this misunderstanding on the part of the EC policy-makers, and as that occurs the perceived political cost of negotiations will fall substantially. Negotiations will come to be viewed as a symbol of EC success with relatively small political ramifications for Soviet-East European relations.

Still, while the perceived political costs for the EC of negotiations may fall, the perceived economic benefits at present are small and relatively uncertain. The EC faces no well-defined common socialist commercial policy as of yet, nor does it face a well-defined common industrial policy, which would be the type of policy of most import for EC goods. On the other hand, there is a strong *de facto* protection of CMEA domestic industry against foreign competition and if the EC could use the CCP and CAP as levers to weaken some of those barriers it could possibly expect large increases in exports of manufactured goods in exchange for more primary products, simple manufactured goods and possibly agricultural products. Now of course these are *national*, not *supranational*, barriers in CMEA which exist in intra-CMEA trade (to a lesser extent) as well as in East-West trade; and EC negotiations with individual national authorities could remove those barriers. That is, the CMEA has not achieved the planning equivalent of a common market. But it may be the CMEA already seems to have enough internal cohesion to reject the notion of direct EC-CMEA member-country negotiations without an umbrella agreement between the EC and CMEA.

Aside from the political and economic considerations surrounding CMEA-EC negotiations, one must remember that it is not at all apparent that trade agreements really mean anything in trade among individual nations, let alone in trade among groups of nations. While I know of no comprehensive study of the impact of trade agreements on trade flows, purely non-scientific impressionistic evidence would suggest that trade agreements serve to ratify what has already begun to transpire; that is, they are almost in the nature of a ceremony. Typically the Soviets seem to place much more weight on their conclusion than the western partners. There is, of course, more than mere ceremony involved here. If the trade agreements involve specific quantities or types of goods then the Soviets will build those preferences into their decisions on the geographic structure of trade through the Treaty and Legal Administration and the Geographic Administrations of the Ministry of Foreign Trade.<sup>53a</sup>

Also on the western side the trade agreement may serve to provide western exporters and importers with more information on possibilities for trade, which in turn may affect trade flows. But potential effects on trade flowing directly from these are uncertain and probably not terribly large. On the other hand there seem few potentially objectionable consequences of inter-national trade agreements, and presumably this would also apply to inter-economic union trade agreements.

All of these considerations seem to suggest that if CMEA continues to push for CMEA-EC negotiations, they will most likely finally get them. The political costs to the EC seem small and so do the economic benefits. But the Soviets may make it clear that any EC-individual CMEA member-state negotiations must occur under a CMEA-EC umbrella; and in fact the Soviets may succeed in bringing some trade issues up to the level of CMEA itself (for example cooperation agreements on large fuel and primary product projects).

If and when the negotiations do occur they will be extremely complex because they involve three major unresolved issues: the distribution of power in the CMEA, the distribution of power in the EC, and relations between the EC and CMEA. If one looks for example at the CMEA draft agreement—which seems a reasonable agenda for the talks—it is apparent that much of the negotiating time on particular issues may involve negotiations *within* the CMEA and EC on just who has the power to give concessions. Quotas in the EC are primarily the business of member-states; in CMEA they are totally member-state business. Yet the CMEA draft agreement proposes discussions about trade barriers. If the discussions became very specific, then they would either have to be bilateral (between member-states on both sides) or else the entire history of autonomy in this area in both organizations would have to be reversed. Some issues such as market disruption clauses would seem potentially far less controversial and in fact appropriately handled at the EC-CMEA level.

A CMEA-EC Joint Commission along traditional lines would be a particularly sticky issue since there are many bilateral joint commissions now in existence, and they could hardly be expected to relinquish all of their powers. But the CMEA-EC Commission might

<sup>53a</sup> For a discussion of this process see my "Most Favored Nation Treatment in Trade under Central Planning," *Slavic Review* (forthcoming).

limit itself to discussing pan-European projects too large to be considered by individual bilateral commissions.

Thus while negotiations seem quite likely, their content and outcome are difficult to predict. What seems probable is an agreement which for the most part sets a framework for continued negotiations between individual member-states or between individual CMEA states and the EC. The interesting question is if decisions on some trade matters in the CMEA will be centralized so that negotiations between the CMEA and individual EC member-states will make sense. It seems doubtful at this point. Undoubtedly the CAP will be discussed at the EC-CMEA level, but it seems doubtful that much will be resolved unless Eastern Europe succeeds in linking CAP to Soviet energy supplies or improved access to CMEA markets. Both are possible, but CMEA is still a relatively unimportant set of trade partners for the EC, and major concessions on CAP seem highly improbable.

If the agreement really affects trade, it will probably be on very big questions concerning cooperation probably in areas such as fuels, primary products, transportation, communications, energy, or the environment.

### *The Implications for U.S. Relations With the EC and CMEA*

It seems clear that the successful conclusion of an EC-CMEA agreement of the type we have outlined here will have little impact on U.S. relations with either the EC or CMEA. In the large issues of all-European cooperation where the agreements may have some influence on trade, most of those are either not related to trade outside of Europe (transport, the environment, communications, or some forms of energy such as an all-European electricity grid), and the others have little importance for U.S. trade with those areas.

As Table 2 shows, U.S. exports to the EC, like U.S. exports to the world, concentrate in agriculture and food products, and in machinery and equipment. It seems unlikely that the EC-CMEA agreement will result in the EC discriminating in its Common Agriculture Policy in favor of CMEA against the U.S., so the impact on that portion of trade will be small.

TABLE 2.—U.S. EXPORTS, 1974 (PERCENT OF TOTAL)

Standard industrial classification category	Exports to	
	EEC 9	World
0 Food and live animals.....	13.6	14.4
1 Beverages and tobacco.....	2.1	1.3
2 Crude materials, excluding fuels.....	16.0	11.3
3 Mineral fuels, lubricants, and related materials.....	3.4	3.5
4 Animal and vegetable oils and fats.....	1.1	1.5
5 Chemicals.....	10.3	9.1
6 Manufactured goods classified chiefly by materials.....	10.9	11.5
7 Machinery and transport equipment.....	33.3	39.4
8 Miscellaneous manufactured goods.....	7.0	5.5
9 Goods not elsewhere classified.....	1.1	2.7

Source: U.S. Department of Commerce, Bureau of the Census, U.S. Exports: World Area by Commodity Groups, FT 455. Annual 1974.

In machinery and equipment there will surely be joint commissions set up, many meetings, and so on; but none of these should have a major impact on the comparative advantage the U.S. has in the pro-

duction and export of many types of machinery, such as computers, office machinery, telecommunications equipment, and aircraft. The only potential effect could be that the CMEA negotiators would agree to try harder to discriminate in favor of EC machinery exporters, but that would only have an impact in those areas where the EC export products are very similar to U.S. products. The impact there could be important but it would take a very detailed study of commodity groups to see how important. But the crucial point here is that such a commitment by CMEA planners to discriminate in favor of EC exporters would probably only come if the EC would agree to discriminate in favor of CMEA machinery and equipment. That might prove a high cost, hence agreement in that area seems unlikely in the near future.

In primary products and fuels, where the EC-CMEA agreement might have some impact, U.S. exports are not substantial, therefore those interests would not be affected. On the import side the only possible impact is that should the U.S. Government revive an interest in large cooperative projects concerning energy in the USSR, they could now find a competitor in the EC as a whole. Most of these projects involve Soviet commitments of capital, labor, and materials, and there must be some limit to how many commitments the Soviet Union can contemplate at one time, thus it is not inconceivable that the U.S. and EC could find themselves competing in the Soviet Union contracts on enormous projects involving fuels and primary products.

In conclusion, from an economic point of view it would seem that any foreseeable CMEA-EC agreement would have no major consequences for U.S. relations with either group. The agreement will probably be long in coming; there are too many impediments to be removed to expect any early settlement. Also, when it does come, the issues on which CMEA and the EC have mutual interests conducive to agreement are for the most part in areas which are relatively unimportant to U.S.-EC and U.S.-CMEA relations. There could be some effects on discrimination against U.S. exporters and some more concerted competition on big projects; but neither of those seems at present to loom as a major consideration.

What will probably be much more important for these agreements is their implications for political trends in Europe and political relations between Eastern Europe, Western Europe and the U.S. The Soviets have an image for Western Europe just as they have one for CMEA, and agreements such as these are probably an important part of the realization of that image. It is probably this image, which spans both politics and economics, which should be the subject of further research.

# COMPARATIVE STRUCTURE AND GROWTH OF ECONOMIC ACTIVITY IN EASTERN EUROPE

BY THAD P. ALTON \*

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\*I am indebted to all my colleagues at the Research Project on National Income in East Central Europe, formerly at Columbia University and at Riverside Research Institute and currently at L. W. International Financial Research, Inc. A list of Project publications supporting some of the data in this paper is given in the Appendix. Special thanks are due to Gregor Lazarcik, Elizabeth M. Bass, Wassył Znayenko, George Staller, and Frank Bandor for preparation of current GNP estimates and for strong support in preparing other parts of the paper, writing appendix notes, and reviewing my observations. Any shortcomings are my responsibility.

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## I. INTRODUCTION

This paper presents summary measures of the post-1965 economic performance of six countries of Eastern Europe: Bulgaria, Czechoslovakia, East Germany, Hungary, Poland, and Romania. This will be done primarily by reference to tables showing the structure of economic activity as regards both the origin and the final uses of product, the allocation of resources to various sectors of production, the productivities of labor and capital, and the rates of growth of output and inputs.

Economic performance, of course, is the outcome of complex interaction of personal motivations of employees, managers, consumers, political party and government officials, as well as of the availability of resources—labor, capital, and land, state policy regarding priorities for production and consumption, the institutional framework determining the rules of the game, participation in world trade, applications of science and technology, such exogenous factors as the weather and international politics, and many other considerations. Essays on particular national economies in the present volume examine many aspects of this complex interaction. The present paper has the more limited aim of presenting the outcome of economic activity by conventional summary indicators, but some reflections on the economic milieu and problems will be offered as well.

Part II of this paper describes the outcome of economic activity in terms of the changing percentage composition of sectors of origin and final uses in national income aggregates (both the gross value added, GNP or GDP, and the net material product, NMP concepts) and the changing patterns of labor and capital inputs. Structural changes reflect diverse rates of growth of the corresponding economic categories; Part III provides such growth measures. Part IV presents some summary indicators of labor and capital productivities. Part V examines briefly some current problems and future perspectives

confronting the economies. Part VI provides a brief summary of the findings of this paper. The reader may wish to refer to it first and then to study the details in the other parts.

Although our tables represent implicitly the outcomes of the manifold interactions of causative factors, such tables cannot fully comprehend the performance of the economies. Important qualitative aspects of performance are often poorly reflected in the conventional performance measures.

Intertemporal and international statistical comparisons by means of index numbers are inevitably relative to their bases of valuation and to the methodology and concepts used to make the comparisons. At various points in this paper we shall note striking statistical anomalies in order to emphasize such relativities. Here we may illustrate the problem by citing two instances drawn from Tables 4 and 14. According to official Hungarian versions of the composition of the net material product (NMP) national income, Table 4, the share of industry in 1965 in the total NMP was originally shown as 66.9 percent in "comparable prices" and subsequently was revised downward for the same 1965 year to 41.6 percent in 1968 comparable prices. (In 1965 current prices the 1965 share was 58.1 percent). The share of trade in 1965 "rose" from 0.6 percent in the original version to 13.5 percent in the revised; agriculture's share increased from 16.4 percent to 24 percent. The other citation refers to the index for the trade sector in Romania's NMP national income over the 1965-1970 period (see Table 14): 1965=100, 1966=88, 1967=76, 1968=77, 1969=60, 1970=24. For subsequent years, the index has not been published in Romanian sources.<sup>1</sup>

These citations are not intended to denigrate the official national income statistics of Hungary or Romania; relativities with respect to bases of valuation, concepts, and methodology abound in statistics of many other countries, though perhaps not often to such extremes as noted above. However, at least one observation is warranted here. It is directed towards those who would use such statistics without critical examination of the effect of linkages of component segments of indexes calculated according to diverse methodologies and weight regimens, when the users juxtapose such linked output indexes to labor and capital input indexes in order to calculate factor productivities, elasticities of substitution between capital and labor, and rates of technical change. Abstraction, or model building, to explain the past and to prognosticate is a commendable exercise; it surely has didactic value; but the explanations of the past and the prognoses based on sophisticated fittings of various production functions to empirical observations that may come in assorted and mixed specifications should be treated with caution.

The labor input series into various branches of production would appear to be more consistent than the available output indexes and the capital input series. But one must reckon with boundary changes in regard to branches and their related input and output series. Sometimes

<sup>1</sup> A revised index appears in the CEMA yearbooks of recent years showing growth of the Romanian trade sector. The CEMA 1976 yearbook shows the following trend: 1960=41, 1965=70, 1970=100, and 1975=151; however, the total NMP national income and its major sectors have not been revised retrospectively in the CEMA source. It is not clear whether the post-1970 national income total for Romania in both its own yearbook and in CEMA's was affected by possibly a new trade index component or whether the accounting proceeds along old lines with the anomaly not apparent by non-publication of indexes for trade and "other" sectors.

the boundary changes are not applied retrospectively to yield consistent coverage over time. The reclassification of non-material (or so-called non-productive) transportation and communication into the material sphere is a case in point. Another instance occurs where employees of non-productive administrative agencies are by fiat added to a material sector's employment when government branch managements devolve into enterprise branch associations. Fixed capital series, that may be presumed to be at constant prices, in fact may fail to meet this expectation over long periods. (Bulgaria is a notable example here.) The conclusion to be drawn from these remarks is simply that overly sophisticated analyses with unadjusted input and output statistics may be seriously misleading.

Data imperfections notwithstanding, intertemporal and international comparisons are being made, and when taken as rough measures, they provide useful perspective on economic development. Our aim here is to contribute to such an appreciation of economic change in Eastern Europe by presenting both our independently calculated GNP estimates and the national official statistics in the truncated net material product (NMP) national income concept and by reviewing the composition of employment of labor and capital at selected years over the 1965-1975 period. Rates of growth of outputs, inputs, and factor productivities will be shown implicitly in indexes and explicitly as averages over five and ten year intervals.

The growth formula fitted by least squares to the empirical data is the familiar compound interest equation:  $I_n = I_0(1+r)^n$ , where  $I_0$  is the initial observation,  $r$  is the annual rate of growth,  $n$  is the number of years, and  $I_n$  is the terminal observation. The determined rate of growth is an average, and in common with all averages it hides the interesting detail that the annual observations provide. The caution to be noted here is that a seeming contradiction may emerge, say, when the rates over a ten-year span are computed for the two subperiods of five years and for the period as a whole. Not so rarely as one might expect, the rate for the period as a whole may be lower than each of the rates of the component subperiods. When such a situation is seen, it does not follow that the computations were faulty.

It may be a matter of taste whether to prefer the rate determined by the least squares fit, or the rate as the  $n$ th root of the overall growth in the period of  $n$  years, or as a simple arithmetic average of the rates expressed as annual increments over the period. The choice will depend on the purpose, and so long as the series of annual observations are given, the various alternative rates may be readily calculated.

A guiding principle in making comparisons is to observe symmetry among countries and intertemporally for a given country. Here the most obvious, and perhaps unnecessary, caution is to beware of making comparisons between GNP or GDP (gross domestic product) measures on the one hand and NMP (net material product) national income measures on the other. The NMP concept excludes government services and some other services for the population from national income; GNP and GDP include them. The NMP concept at one time excluded passenger transportation and communications services for households and "non-material" sector users. Currently only Czechoslovakia and the Soviet Union follow this convention; other CEMA countries of Eastern Europe have at various times enlarged the

"material product" sphere to include all transportation and communications, and, moreover, as consequences of organizational reforms, have shifted some "non-material" services (and their employees) into the material product sphere measures. When such changes are made, but the antecedent economic indexes are not retrospectively adjusted to the new coverage, the expansion in coverage may manifest itself as "growth". Hence some circumspection is required on the part of analysts who seek precision in comparability. Usually the national statistical sources signalize changes in coverage and price regimens pertaining to their serial economic measures, but commonly they do not retrospectively adjust the measures to insure comparability over time.

The caution here is for the analyst to adjust the data series himself, or, at a minimum, to advise his readers of the discontinuities and their likely consequences for the conclusions drawn from the unadjusted series. For what may be interpreted as growth or deceleration of growth, or absolute decline in an index may not reflect real trends so much as the discontinuities mentioned above, as well as the methodology for the calculation of measures of growth. In the instance of the NMP index of trade for Romania that was cited above, a fall in the index from 100 in 1965 to 24 in 1970 would appear to have substantial consequences for the overall NMP national income index. Surely trade services did not decline in the sense one ordinarily visualizes such services. The anomalous behavior of the official index no doubt reflects the official definition of the trade sector to include some consequences in connection with price equalization procedures in foreign and/or domestic trade.<sup>2</sup>

In order to facilitate intertemporal and international comparisons we present our independently calculated GNP measures as well as the official NMP national income statistics for the East European countries. In our GNP measures we have adjusted established domestic market valuations, which embody various distortions on the account of unsymmetric incidence of turnover taxes, profits, and subsidies, in order to approximate factor cost weights for our sector of origin indexes of GNP. The resulting GNP measures should provide insights into the structure, performance, and comparability of the economies that the NMP measures alone cannot offer.<sup>3</sup>

## II. STRUCTURAL CHANGES IN ECONOMIC ACTIVITY

In Tables 2-9 we examine the structure of economic activity as reflected in the composition of GNP, NMP, employment and fixed capital. Table 1 on population and Table 10 on dollar values of the national products provide some bases for perspective on the economies of Eastern Europe in international settings.

<sup>2</sup> Hungarian national income official figures for NMP produced in 1955 show a total NMP of 94.3 billion forints, of which domestic trade contributed a positive net product of 11.9 billion forints and foreign trade a negative net product of 8.8 billion forints on external trade that was about balanced in foreign currencies, but showed a huge loss in domestic forints (see Alton and Associates, "Hungarian National Income and Product in 1955," p. 92, citing the official Hungarian statistical yearbook, *Statistikai évkönyv*, 1949/55, p. 39). Possibly in the case of Romania, growing losses on price equalization over a period of years caused the strange behavior of the NMP index of trade.

<sup>3</sup> Details on our methodology and sources are given in the "Occasional Papers" (OPs) of the Research Project on National Income in East Central Europe; see the listing in the bibliography at the end of the paper. OPs numbers 48 and 50 as updated for the present article provide summary information on our indexes.

*Population: Numbers, Indexes, and Rates of Growth*

The population data in Table 1 show a total population of 106.88 million for the six countries for mid-year 1976. For comparison, the mid-year 1975 populations in millions were as follows: six countries of Eastern Europe—106.2; United States—213.6; USSR—254.5; France (1974)—52.5; West Germany (1974)—62.1; and Italy (1974)—55.4.<sup>4</sup> Thus, in terms of population the six countries represent about 50 percent of the level of the United States and 42 percent of that of the USSR. Although individually the countries are relatively small, taken together they represent an important aggregate in terms of population and economic potential.

TABLE 1.—EAST EUROPEAN POPULATION, 1965-76  
I. MIDYEAR OR ANNUAL AVERAGES IN THOUSANDS

Year:	Bulgaria	Czecho- slovakia	East Germany	Hungary	Poland	Romania	Total
1965.....	8,201	14,159	17,020	10,148	31,496	19,027	100,051
1966.....	8,258	14,240	17,058	10,179	31,698	19,141	100,574
1967.....	8,310	14,305	17,082	10,216	31,944	19,285	101,142
1968.....	8,370	14,361	17,084	10,256	32,305	19,721	102,097
1969.....	8,434	14,415	17,076	10,299	32,555	20,010	102,789
1970.....	8,490	14,334	17,058	10,338	32,526	20,253	102,999
1971.....	8,536	14,399	17,061	10,368	32,806	20,470	103,639
1972.....	8,576	14,465	17,043	10,398	33,068	20,663	104,213
1973.....	8,621	14,560	16,980	10,432	33,363	20,828	104,784
1974.....	8,679	14,686	16,925	10,479	33,691	21,029	105,489
1975.....	8,722	14,802	16,850	10,541	34,022	21,245	106,182
1976.....	8,761	14,917	16,794	10,599	34,343	21,462	106,876

## II. INDEXES 1965=100

Year:	Bulgaria	Czecho- slovakia	East Germany	Hungary	Poland	Romania	Total
1965.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1966.....	100.7	100.6	100.2	100.3	100.6	100.6	100.5
1967.....	101.3	101.0	100.4	100.7	101.4	101.4	101.1
1968.....	102.1	101.4	100.4	101.1	102.6	103.6	102.0
1969.....	102.8	101.8	100.3	101.5	103.4	105.2	102.7
1970.....	103.5	101.2	100.2	101.9	103.3	106.4	102.9
1971.....	104.1	101.7	100.2	102.2	104.2	107.6	103.6
1972.....	104.6	102.2	100.1	102.5	105.0	108.6	104.2
1973.....	105.1	102.8	99.8	102.8	105.9	109.5	104.7
1974.....	105.8	103.7	99.4	103.3	107.0	110.5	105.4
1975.....	106.4	104.5	99.0	103.9	108.0	111.7	106.1
1976.....	106.8	105.4	98.7	104.4	109.0	112.8	106.8

<sup>1</sup> Estimate.

Sources: Statistical yearbooks and official plan fulfillment reports.

Population growth in the six East European countries as shown by comparisons of increases over the 1955-1965 period versus the increases over 1965-1975 has slackened in three countries, declined at a lesser rate in East Germany, and increased in Hungary and Romania. For each country, the percentage increments in the corresponding periods, 1955-1965 versus 1965-1975, calculated from national statistical yearbooks, were as follows: Bulgaria, 10.9 to 6.4; Czechoslovakia, 10.8 to 4.5; East Germany, minus 5.2 to minus 1.0; Hungary, 3.3 to 3.9; Poland, 15.5 to 8.0; and Romania (1956-1966 vs. 1966-1976), 9.2 to 12.1. Thus Romania alone has more than maintained its substantial momentum, but one may expect from the shape of the

<sup>4</sup> U.S. and U.S.S.R. data: U.S. Congress Joint Economic Committee, "Soviet Economy in a New Perspective," October 1976, p. x; OECD countries: OECD, "Labor Force Statistics," 1963-1974, p. 15.

Romanian "population tree" that some slackening of the tempo may be expected in the future. There was a sharp reduction in the number of annual new cohorts from 1960 to 1966, but a state policy reversal on free abortions resulted in a 1968 cohort about twice as large as that of 1966. Subsequently a new "pinched waist" formation appeared in the population tree, suggesting that Romanian families were again restraining births, but not so sharply as around 1966.

The labor force of the 1970s will reflect births of the 1950s, but the more recent births figure in the consumption side of the national product, and they will provide the new entrants to the labor force in the 1980s and subsequently. The average annual rates of increase of population shown by the United Nations "Statistical Yearbook, 1975," for the 1970-74 period for the six countries of Eastern Europe and selected other countries were as follows: Bulgaria—0.6; Czechoslovakia—0.6; East Germany—(-) 0.2; Hungary—0.3; Poland—0.9; Romania—0.9; United States—0.8; West Germany—0.6; Italy—0.8; Spain—1.1; and the United Kingdom of Great Britain and Northern Ireland—0.2. There is relatively little difference between Eastern Europe as a whole and the average for the other indicated countries. If present trends continue, then Eastern Europe will be facing increasing labor scarcities. Labor shortages already are manifest in East Germany, which has the continued distinction of a declining population, in Czechoslovakia, and in Hungary. Even Bulgaria is concerned over labor shortages, and Poland and Romania are expected to face shortages a decade or so hence.

The agricultural population in Eastern Europe still constitutes a substantial reserve for transfers to other sectors despite its steeply declining share in the total of economically active population (see Table 6). It is against this background of relative labor scarcity compared to the earlier post-World War II years that such great emphasis is being placed upon more rapid technological progress and capital investment to make possible increased labor productivity.

#### *Composition of National Product by Sectors of Origin*

Tables 2, 3 and 4 indicate the changing composition of national product by industrial sector over the 1965-1975 period. Tables 2 and 3 are in the GNP or GDP concept, and Table 4 in NMP national income concept.

The structural changes in GNP in constant prices (Table 2) reflect the continued emphasis upon industry as the prime sector fostering economic growth.<sup>5</sup> Agriculture, however, though still showing a declining sectoral share, has been receiving more favorable treatment in pricing of outputs and in allocation of inputs. Nonetheless, agriculture's share in total employment and in national product may be expected to decline further in future years, barring unforeseen, more sharply favorable policies on prices and other incentives to farmers. Construction did not show great changes, generally holding its share or increasing modestly. Exceptions here were East Germany and Poland, with substantial increases, and Romania, which showed an increase from 1965 to 1970, followed by a decline to 1975. Industry showed a

<sup>5</sup> The sectoral shares shown in Table 2 of the present article differ somewhat from the composition shown in my article in the 1974 JEC Compendium, partly because of revision of sectoral weights and the use of a more recent weight-base year.

leveling-off trend in sectoral shares in Bulgaria, Czechoslovakia, East Germany and Hungary, but increased its shares substantially in Poland and Romania.

TABLE 2.—COMPOSITION OF GROSS NATIONAL PRODUCT BY INDUSTRIAL ORIGIN, SELECTED YEARS  
1965-75

[In constant prices]

	1965	1970	1975
<b>Bulgaria:</b>			
Industry (including handicrafts).....	29.1	34.0	35.7
Agriculture and forestry.....	35.7	28.3	25.1
Construction.....	6.4	6.8	6.4
Transport and communications.....	6.1	8.3	9.4
Trade.....	5.3	6.2	7.2
Housing.....	6.7	6.3	6.1
Government and other.....	10.7	10.1	10.1
<b>Total GNP.....</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
<b>Czechoslovakia:</b>			
Industry (including handicrafts).....	40.0	41.5	42.4
Agriculture and forestry.....	18.7	18.3	17.5
Construction.....	5.3	5.3	5.4
Transport and communications.....	10.5	10.0	10.2
Trade.....	6.8	7.8	8.7
Housing.....	9.6	8.5	7.8
Government and other.....	9.1	8.6	8.0
<b>Total GNP.....</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
<b>East Germany:</b>			
Industry (including handicrafts).....	41.0	42.5	42.5
Agriculture and forestry.....	15.8	13.8	13.5
Construction.....	4.7	5.9	6.2
Transport and communications.....	7.0	7.5	7.8
Trade.....	9.4	10.0	10.8
Housing.....	8.9	7.9	7.1
Government and other.....	13.2	12.4	12.1
<b>Total GNP.....</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
<b>Hungary:</b>			
Industry (including handicrafts).....	33.5	34.4	33.5
Agriculture and forestry.....	25.9	22.4	22.8
Construction.....	4.5	5.7	5.6
Transport and communications.....	9.7	9.9	9.7
Trade.....	5.6	7.2	8.1
Housing.....	10.0	9.0	8.4
Government and other.....	10.8	11.4	11.9
<b>Total GNP.....</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
<b>Poland:</b>			
Industry (including handicrafts).....	32.0	35.8	37.5
Agriculture and forestry.....	30.0	24.5	19.1
Construction.....	7.0	8.4	10.4
Transport and communications.....	7.8	8.7	11.5
Trade.....	6.0	6.5	7.4
Housing.....	7.5	7.1	6.1
Government and other.....	9.7	9.0	8.0
<b>Total GNP.....</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
<b>Romania:</b>			
Industry (including handicrafts).....	26.5	35.5	39.5
Agriculture and forestry.....	42.0	31.3	29.4
Construction.....	6.7	7.5	6.2
Transport and communications.....	5.5	7.0	8.0
Trade.....	5.5	6.5	7.0
Housing.....	5.4	4.7	3.9
Government and other.....	8.4	7.5	6.0
<b>Total GNP.....</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

Source: Derived from GNP measures shown in table 13.

The spread in the shares of industry among the six countries in total GNP diminished significantly over the 1965-1975 period. With rising levels of economic development one may well expect industry's share

eventually to decline as the service sectors gain importance. East Germany and Czechoslovakia stand at the top of the list in the share of industry (42 percent) in GNP. Romania, Bulgaria, Hungary and Poland, in declining order still have agricultural shares in 1975 in the 29 to 19 percent bracket. East Germany has the lowest agricultural share in 1975 (13.5 percent of GNP).

Table 3 shows in current prices the industrial composition of GDP for non-CEMA countries of Europe and the United States. West Germany ranked first in the share of industry (43 percent), a share almost identical to that of East Germany and Czechoslovakia. At this juncture one should note that comparisons of this kind are extremely rough, and the shares in the various countries are strongly affected by the bases of valuation, sectoral boundaries, and methodology of calculation, which may differ among countries. Despite such differences, Table 3 suggests that Eastern Europe may be expected to decrease further the share of agriculture and to increase the share for services as the economies continue to develop. The very low shares for agriculture (3 to 5 percent) for the more developed countries shown in Table 3 (USA, UK, West Germany, France and Japan) are unlikely to be reached in Eastern Europe in the short run.

TABLE 3.—NON-CEMA COUNTRIES: COMPOSITION OF GDP BY INDUSTRIAL ORIGIN, 1973 OR 1974

[In current prices]

Country	Year	GDP	Industry	Agriculture and forestry	Construction	Transport and communication	Trade	Other
Austria.....	1973	100	35	-6	10	6	14	22
France.....	1974	100	36	5	10	5	17	27
West Germany.....	1974	100	43	3	7	6	12	30
Greece.....	1974	100	22	18	7	6	14	23
Italy.....	1974	100	34	8	8	5	14	27
Japan.....	1974	100	37	5	7	7	18	31
Spain.....	1973	100	28	12	5	-----	48	-----
United Kingdom.....	1973	100	31	3	6	8	9	31
United States.....	1974	100	28	4	5	6	18	39

Note: The GDP is expressed in current producers' values, and its composition by industrial activity is in terms of the U.N. SNA system. In some cases the percentages do not add up to 100 because of statistical discrepancies and because import duties are in many cases not included in the reported industrial group but do enter the total GDP. Agriculture and forestry include hunting and fishing. Industry includes mining, quarrying, manufacturing, electricity, gas, and water.

Sources: United Nations, "Statistical Yearbook, 1975", and United States, "Statistical Abstract, 1976".

Table 4 showing the shares of material product sectors in the NMP (net material product) national income is not directly comparable to Tables 2 and 3, not only because of the narrower product concept but also because of different bases of valuation. This lack of comparability applies within Table 4 itself, both for a single country and among countries primarily because of differences in relative valuation among sectors. But changes in coverage of the NMP concept also affect the comparisons. At various points in time all of the countries except Czechoslovakia have transferred passenger transportation and communications serving households and non-material sectors of production from the non-material to the material product sphere. In the 1965-1976 period only Bulgaria and Romania made this transfer. There have also been other such transfers enlarging the material product sphere, and the footnotes and introductory text to the national income chapters of the national statistical yearbooks make clear the lack of comparability over time that these transfers cause. We have not attempted to adjust

the published figures to achieve comparability, and indeed the task might well require more information than is given in the readily available statistical compilations.

TABLE 4.—COMPOSITION OF NATIONAL INCOME (NET MATERIAL PRODUCT) BY INDUSTRIAL ORIGIN, SELECTED YEARS, 1965-75

[Percent of total]

	Total	Industry	Agriculture and forestry	Construction	Transport and communications	Trade	Other
<b>Bulgaria:</b>							
1965 <sup>1</sup>	100	49.0	28.0	8.0	5.0	8.0	2.0
1965 <sup>2</sup>	100	45.0	33.4	7.3	4.5	7.7	2.1
1970 <sup>1</sup>	100	55.0	18.0	9.0	7.0	9.0	2.0
1970 <sup>2</sup>	100	49.1	22.6	8.7	6.9	9.9	2.8
1975 <sup>2</sup>	100	51.0	22.0	8.8	8.2	7.8	2.2
<b>Czechoslovakia:</b>							
1965 <sup>3</sup>	100	68.9	9.9	10.3	4.1	6.0	.8
1965 <sup>4</sup>	100	66.4	12.0	9.3	2.4	8.5	1.4
1965 <sup>5</sup>	100	64.9	13.3	9.3	3.2	8.4	.9
1966 <sup>6</sup>	100	67.4	10.6	11.2	3.7	6.1	1.0
1966 <sup>7</sup>	100	62.4	12.2	11.6	4.1	8.9	.8
1970 <sup>4</sup>	100	61.6	10.9	10.9	3.6	11.8	1.2
1970 <sup>5</sup>	100	61.0	11.3	11.2	4.2	11.3	1.0
1975 <sup>4</sup>	100	62.7	8.9	11.9	3.7	11.7	1.1
1975 <sup>5</sup>	100	64.1	9.3	12.5	4.3	8.9	.9
<b>East Germany:<sup>8</sup></b>							
1965	100	59.2	13.8	7.4	5.4	12.5	1.7
1970	100	60.7	11.6	8.3	5.2	12.6	1.6
1975	100	62.2	10.0	8.0	4.9	13.3	1.6
<b>Hungary:</b>							
Original version:							
1965 <sup>9</sup>	100	66.9	16.4	10.7	4.5	.6	.9
1965 <sup>9</sup>	100	58.1	20.5	10.3	4.8	5.3	1.0
Revised version:							
1965 <sup>9</sup>	100	41.6	24.0	10.6	6.0	13.5	4.3
1970 <sup>9</sup>	100	42.6	17.5	16.9	6.4	14.8	6.8
1970 <sup>9</sup>	100	56.4	16.0	10.9	5.1	8.6	3.0
1975 <sup>9</sup>	100	44.7	15.0	11.7	6.3	8.6	3.0
1975 <sup>9</sup>	100	59.7	15.0	11.0	4.8	7.9	1.6
<b>Poland:</b>							
1965 <sup>10</sup>	100	53.4	21.1	9.0	6.2	8.5	1.8
1965 <sup>11</sup>	100	51.5	23.5	8.9	5.9	8.7	1.5
1965 <sup>12</sup>	100	51.6	22.8	8.9	5.9	9.3	1.5
1965 <sup>13</sup>	100	45.0	25.5	10.2	6.3	11.5	1.5
1970 <sup>10</sup>	100	58.4	14.8	10.0	6.4	8.6	1.8
1970 <sup>11</sup>	100	56.5	17.3	9.8	6.0	8.8	1.6
1970 <sup>12</sup>	100	54.6	17.3	9.8	6.7	9.9	1.7
1970 <sup>13</sup>	100	49.8	18.9	11.4	6.5	11.8	1.6
1975 <sup>13</sup>	100	52.1	12.6	13.3	7.4	12.6	2.0
1975 <sup>12</sup>	100	59.1	15.1	11.2	6.8	5.5	2.3
<b>Romania:<sup>14</sup></b>							
1965	100	48.9	28.9	8.0	4.0		<sup>15</sup> 10.2
1970	100	60.3	19.5	9.8	4.0		<sup>15</sup> 6.4
1970	100	58.0	18.5	10.4	6.0		<sup>15</sup> 7.1
1975	100	56.2	16.0	7.6	5.8		<sup>15</sup> 14.4

<sup>1</sup> In Jan. 1, 1962, prices through 1971. In Jan. 1, 1971, prices since 1971.

<sup>2</sup> In current prices. 1970 and later years reflect changes in coverage to include passenger transportation and the communications services formerly excluded from material product, and also some services formerly excluded from industry and agriculture.

<sup>3</sup> In Apr. 24, 1960, prices.

<sup>4</sup> In Jan. 1, 1967, prices.

<sup>5</sup> In current prices.

<sup>6</sup> Apr. 24, 1960, prices.

<sup>7</sup> Jan. 1, 1967, prices.

<sup>8</sup> In comparable prices.

<sup>9</sup> In 1968 comparable prices. "Other" includes water economy.

<sup>10</sup> In constant 1961 prices. Domestic NMP only.

<sup>11</sup> In constant 1965 prices. Domestic NMP only.

<sup>12</sup> In current prices. Domestic NMP only.

<sup>13</sup> In constant 1971 prices. Total NMP.

<sup>14</sup> In current prices; 1970 figures reflect changes in coverage to include passenger transportation and the communications services formerly excluded from national product, and also some services formerly excluded from industry and agriculture.

<sup>15</sup> Official breakdown is not available. According to tabulation provided by the CEMA statistical office for NMP in current prices, the share of trade was 7.5 percent in 1965, 3.5 percent in 1970, and 10.6 percent in 1976. The share of "Other" sector was 1.5 percent in 1965, 1.9 percent in 1970, and 1.7 percent in 1976 (see "Statisticheskiy Ezhegodnik Stran-Chlenov Soveta Ekonomicheskoi Vzaïmopomoshchi, 1976," p. 44).

Note: See appendix, notes to tables 4, 5, 14, 15, 16, etc.

We have included breakdowns of NMP by industrial sector for given years for several countries in more than one set of prices in order to illustrate the oftentimes extreme shifts that changes in valuation bring about. The footnotes to the table indicate the price bases underlying these changes. Perhaps most striking is the "deindustrialization" within a single year. In Bulgaria, for example, in 1965 industry accounted for 49 percent of NMP in 1962 prices, but only 45 percent in current prices. A comparable "decline" in Czechoslovakia in 1966, from 67 to 62 percent, resulted from valuations in 1960 and 1967 prices, respectively. Most striking was the change in the share of industry in Hungary in 1965: from 67 to 58 to 42 percent in the transition to more recent price bases. Romania's two different shares in 1970 for various sectors reflect boundary changes for overall NMP and for component sectors; "non-productive" passenger transportation and communications were made "productive" or "material," and some other services were annexed to agriculture and industry. It would appear that the growth of NMP reflected in chain linked indexes would be affected by the changes in price bases and production boundaries. Thus, analysis of economic growth—acceleration or deceleration—should consider what is "real" and what is a consequence of changes in relative valuation and coverage. Labor inputs are not subject to this problem, although changes in sectoral boundaries, and changes in the length of the work year in days or hours, as well as other factors bearing upon the consistency of the labor input series, must be considered. Still, one should ponder the significance of labor productivity indexes over long periods where the output index may behave variously according to relative valuations underlying the links in the output index, whereas the labor input series is not so seriously affected, or can be made more or less consistent in terms of hours worked.

A close reading of Table 4 should identify by means of the footnotes the years that are valued in a single set of prices and thus provide an impression of the structural changes occurring over time. Thus for Bulgaria, the proportions in 1965 and 1970 based on 1962 prices are indicated by footnote 1. In this interval industry's share grew from 49 to 55 percent of the NMP national income; agriculture's share fell from 28 to 18 percent. The "real" changes in shares from 1970 to 1975 cannot be inferred from Table 4 unless one assumes no change effected by valuations in current prices of the two years. Shares for 1975 in constant prices were not available.

In Czechoslovakia the sectoral shares based on 1967 prices for 1965, 1970 and 1975 showed a small decline for industry from around 66 percent to 63 percent; for agriculture there was a decline from 12 to 9 percent. The picture for East Germany in comparable prices shows industry gaining three percentage points and agriculture and forestry easing about 4 percentage points over the period of 1965–1975. In Hungary, in 1968 comparable prices, industry's share rose slightly, from 42 to 45 percent; agriculture fell from 24 to 15 percent. In Poland, over 1965–1975, in constant 1971 prices, industry's share rose from 45 to 52 percent; agriculture and forestry's declined from 26 to 13. The structure of Romania's NMP national income shown in Table 4 is in current prices of each indicated year; constant price structure over the 1965–1975 period was not available. The general impression, however, is that industry gained in share and agriculture dropped steeply.

Four further comments on Table 4 are warranted. First, the shares exhibited in the table are in market prices and reflect the incidence of turnover taxes, profits and subsidies. These distortions from factor cost on balance favor industry, where the turnover taxes and profits, as forms of "socialist accumulation" (saving or revenue to finance investment and other social objectives) in general are realized in industrial selling prices. Second, because NMP national income excludes "non-productive" services (government, etc.), but GNP does not, the percentage shares of net material product originating in the total NMP for industry and other material sectors would be larger than corresponding shares in GNP, where allocations have to be made to the sectors excluded from NMP. The fact that GNP includes capital consumption allowances whereas NMP excludes them of course should be taken into account here, but the consequences of this consideration would have to be sorted out in terms of the distribution of fixed assets and depreciation rates. Third, the NMP concept refers to gross output less material costs; purchases from "non-material" sectors appear as net material product of the buying sector. Although the total of such purchases is not large, if some sector, say industry, accounts for a disproportionate part of the total, then some distortion would follow as compared to the conventional notion of value added. Finally, fourth, and most important, the bases of valuation underlying Table 2 differ from those of Table 4; Table 2 represents approximations to factor cost; Table 4 is in established prices. The principal outcome of this difference would be more symmetric valuations in Table 2.

Economic statisticians in Eastern Europe are aware of the consequences that alternative bases of valuation may have upon the structure of national income (material product concept). Thus, in the instance of Poland,<sup>6</sup> the Polish Main Statistical Office (GUS) calculated the composition of gross national income (net material product plus depreciation) in realized, or established current prices on the one hand, and in three alternative bases of current valuation: variants A, B and C. Variant A was calculated in prices adjusted by subtracting from the value of net production in current realized prices the taxes (including turnover taxes, income taxes in cooperatives and the private sector, and land tax in agriculture) and positive budget differences (a levy very much like the turnover tax) and by adding subsidies and negative budget differences (which in effect are a form of subsidy). The intent here was to make the adjusted values of net product in particular sectors and branches of the economy more proportional to the corresponding outlays of social labor (live and that embodied in objects). Variant B was calculated in adjusted prices reflecting the outlays on live labor (*pracy żywej*) in the various sectors and branches. These outlays comprise wages and other payments for labor, social security contributions, and net incomes of units in the private sector. Agricultural labor cost was taken as the sum of wages and social security contributions in state farms and net incomes of production cooperatives and private farms.

In the calculations under variant B a limiting constraint was made that the total value of consumption from personal incomes would be

<sup>6</sup> See Poland, Główny urząd statystyczny (GUS), *Rocznik dochodu narodowego, 1971*, "Aneks, Dochód narodowy w cenach umownych" (Annex, National Income in Adjusted Prices), p. 214 ff.

the same in both the actually effective realized prices and in the adjusted variant B prices. Variant C calculations were made along the lines of variant B but with further adjustment to reflect the contribution of fixed capital in various sectors and branches, taking this contribution as equal to one-sixth of reproduction cost (*wartosci odtworzeniowej*) of the fixed capital, a ratio corresponding to a six-year period of recoupment (*okres zwrota*), assumed to be the average for the economy as a whole. Also in variant C, the constraint that the value of consumption from personal incomes should be the same in the actually realized prices as in adjusted prices was not introduced. There were other estimative and procedural details in the alternative calculations, but the above simplified description suffices for the illustrative purposes here. The Polish state statistical office stressed most emphatically that the alternative calculations were not to be considered other than rough estimates and cannot be interpreted as pointing to a need for changes in the existing system of realized prices nor are these alternative calculations to be taken to represent economically justified sets of prices of realization.

In effect, these provisional recalculations by the Polish statistical office follow roughly along the lines of our own earlier calculations of the structure of national product at prices approximating factor cost.<sup>7</sup> The tabulation below shows the results of the GUS calculations of gross domestic national income for 1967 in current prices in four alternative bases of valuation for sectors of origin of product. Gross national income here means that capital consumption allowances were not subtracted along with other material costs from gross output to arrive at the aggregate. The gross national income therefore is the net (NMP) national income plus depreciation of fixed assets in the material sphere of production.

STRUCTURE OF GROSS NATIONAL INCOME, 1967

(In current prices)

	Realized prices	Var. A	Var. B	Var. C
Total.....	100	100	100	100
Of which:				
Industry.....	51	45	39	41
Construction.....	9	11	13	8
Agriculture.....	19	21	28	27
Transport and communications.....	8	9	8	13
Trade.....	9	10	7	6

In all the variants (A, B and C), industry's share declines very substantially while that of agriculture increases. Variant C comes closest to our notion of structure at factor cost. In this variant, as compared to the structure in realized prices, in percentages of the total, industry declines from 51 to 41 (i.e. by one-fifth); agriculture rises from 19 to 27 (by about one-half), and transport and communications rise from 8 to 13 (about five-eighths); trade declines by about one-third; and construction stays roughly unchanged.

The composition of gross national income distributed remains practically unchanged in variants A, B and C as compared to its

<sup>7</sup> See the bibliography for Alton and Associates, "Polish National Income and Product in 1954, 1955 and 1956," and our more recent Occasional Papers on trends and structure of Polish economic activity.

structure in realized prices.<sup>8</sup> Although the major final use components expressed as shares are relatively unchanged in the four variants, this does not mean that subcomponents will all duplicate this stability. This is clear with respect to the branch composition of industry in the four variants (see below). We would expect some substantial changes for shares of subcomponents of final uses when displayed in the four variants within the major categories of personal consumption, collective consumption, and gross investment in the gross national material income distributed. Under personal consumption there should appear repercussion of the declining shares of textiles and food (see below). Within collective consumption and gross investment under the current prices of realization some subcomponents may be relatively subsidized vis-a-vis others. Allocations of product to favored investment uses and to military procurement in current prices of realization may appear as relatively low shares compared to what they would be at approximations to factor cost.

The GUS calculations by four alternative sets of valuations for sectoral structure of production given above cannot show very substantial changes within the industrial sector. Such changes were tabulated by GUS for branches of industry. Perhaps the most significant changes evident in the juxtaposition of 1967 shares within industry as a whole taken as 100 in each variant, were the following, showing first the branch percentage share at actually realized prices and second the corresponding branch share in variant C. Fuels, 10.5—14.9; ferrous metallurgy, 4.9—9.5; textiles, 10.8—7.2; food, 18.0—9.9. For other branches there were smaller variations, up and down. The major changes no doubt reflect the significant influence of the returns to capital and the incidence of turnover tax and other forms of accumulation of financial means to finance investment and other state purposes. Such financial transfers would appear to impinge heavily in favor of the textiles and food shares in the actually realized prices, and the adjustment in variant C accordingly reduces the shares of these branches.

We have not seen more recent official recalculations of the structure of economic activity, although economic policy and planning require a more realistic view of the allocation of factors of production (labor, capital and land) than is afforded by the statistics in actually realized prices. We should note that the composition of gross (material) national income under variants A, B and C still cannot be simply juxtaposed to the composition of GNP or GDP; the latter aggregates include so-called nonproductive services that are excluded from gross (material sector) national income (*dochod narodowy brutto*) used in the GUS recalculations. In addition to this difference in coverage, there are differences in valuation and methodology between the GUS concept and GNP as we calculate it.

### *Composition of National Product by End Uses*

As in the case of the composition of national product by sectors of production considered above, we shall show here the distribution

<sup>8</sup> It is not clear from the brief notes to the GUS estimates whether the ratios along rows in variants A, B, and C reflect the impact of differential pricing evident in the established price version of the I-O table as between consumption (heavily burdened by turnover taxes) and net investment, although the row totals reflecting adjustments toward factor cost would differ from what they were at realized prices.

of national product to final uses in both the gross value added concept (GDP) and in the less comprehensive net material product (NMP) national income concept.

We shall consider first the GDP use composition in current prices in 1974 for Poland and Hungary. Dr. Eugenia Krzeczowska of the Polish Institute for Statistical-Economic Research in the Main Statistical Office (Główny Urząd Statystyczny—GUS) has expanded the 1974 Polish NMP national income produced to the United Nations Standard National Accounts GDP.<sup>9</sup> She did this by starting with the material product system (MPS) gross national income produced (NMP plus capital consumption allowances), subtracting therefrom the nonmaterial services incorporated in the NMP aggregate, and adding next the net production of nonmaterial services, the depreciation in the nonmaterial sphere, and imputed rent and profits in housing in order to place this subsidized element in the Polish economy on a more comparable footing to Western accounting.

The result in current 1974 zlotys was 1,503 billion zlotys of gross domestic product produced. We adjusted this total to take account of the difference in Polish official national income statistics between national income produced and national income consumed.<sup>10</sup> This difference consists of the surplus of imports over exports and the losses of national income produced. The combined value of the two indicated components of the difference, 90.3 billion zlotys, was broken down into losses (19.8 billion zlotys, estimated at 1.64 percent of national income produced, the ratio in 1974 for Czechoslovakia as shown in *Statistická ročenka CSSR 1976*, p. 152) and the estimated import surplus (110.1 billion zlotys, obtained by adding the losses to the 90.3 billion zlotys of the difference between the distributed and produced NMP national income totals). Gross investment in 1974 was estimated as the sum of net investment ("accumulation," 467.3 billion zlotys) plus depreciation in the material sphere (117.3 billion zlotys, as shown in *RS 1976* p. 71) plus depreciation in the nonmaterial sphere (30.5 billion zlotys, as estimated by Krzeczowska), or a total of 615.1 billion zlotys. This total represents 38.6 percent of the 1,593.3 billion zlotys of "GDP distributed." If the import surplus of 110.1 billion zlotys is considered as disinvestment, then the 615.1 billion zlotys shown above is reduced to 505 billion zlotys. If we reduce the GDP total by the import surplus (1,593.3—110.1=1,483.2), the correspondingly reduced gross investment (505) will amount to 34 percent. Each of the percentages of gross investment has to be interpreted with regard to its base.

Corresponding 1974 figures for Hungary may be obtained directly from the official Hungarian statistical yearbook, *Statistikai Évkönyv*, 1974, p. 79, where the national income in current prices is shown in the GDP concept. The total final use of GDP in the domestic economy is shown at 478,600 million forints, without reduction by an import surplus of 21,900 million forints. Total gross capital formation in domestic use was 166,700 million forints, or 34.8 percent of total final domestic uses. Taking into account the import surplus as a reduction of both the total domestic uses and the gross investment, the resulting percentage for gross investment becomes 31.7. A breakdown

<sup>9</sup> Eugenia Krzeczowska, "Dochód narodowy Polski w dolarach" (Polish National Income in Dollars), *Wiadomości Statystyczne*, 1976, No. 10, p. 2.

<sup>10</sup> *RS 1976*, pp. 66, 71-72.

of GDP by final uses for 1975 was not published in the 1975 issue of the Hungarian statistical yearbook.

We have not attempted to estimate the share of gross investment in GDP for the other East European countries, but from a glance at Table 5, and the relationship between net investment shares in current prices in the NMP national income distributed, one might guess that gross investment in 1975 in current prices in these other countries would account for GDP shares in the range indicated by Poland and Hungary. Table 5 does not provide 1975 current price allocations for East Germany, and a guess would not be warranted here.

TABLE 5.—COMPOSITION OF DISTRIBUTED NATIONAL INCOME (NET MATERIAL PRODUCT) BY FINAL USE, SELECTED YEARS, 1965-75

[Percent of total]

	NMP used, total	Consumption			Accumulation		Inventory and reserves
		Total	Personal	Collective	Total	Fixed capital	
<b>Bulgaria:</b>							
1965 <sup>1</sup> .....	100	71.7	69.2	2.5	28.3	NA	NA
1965 <sup>2</sup> .....	100	71.6	NA	NA	28.4	NA	NA
1970 <sup>1</sup> .....	100	69.2	66.3	2.9	30.8	NA	NA
1970 <sup>2</sup> .....	100	70.8	NA	NA	29.2	NA	NA
1975 <sup>2</sup> .....	100	67.5	NA	NA	32.5	NA	NA
<b>Czechoslovakia:</b>							
1965 <sup>3</sup> .....	100	90.9	70.2	20.7	9.1	9.2	-1
1966 <sup>4</sup> .....	100	83.5	65.7	17.8	16.5	11.2	5.3
1966 <sup>5</sup> .....	100	79.4	60.3	19.1	20.6	14.6	6.0
1970 <sup>6</sup> .....	100	76.7	57.9	18.8	23.3	18.3	5.0
1970 <sup>7</sup> .....	100	73.1	55.7	17.4	26.9	20.6	6.3
1975 <sup>8</sup> .....	100	74.0	54.5	19.5	26.0	21.6	4.4
1975 <sup>9</sup> .....	100	71.1	52.3	18.8	28.9	23.4	5.5
<b>East Germany:<sup>10</sup></b>							
1965.....	100	80.1	71.6	8.5	19.9	15.4	4.5
1970.....	100	76.0	66.8	9.2	24.0	20.3	3.7
1975.....	100	78.1	67.5	10.6	21.9	18.8	3.1
<b>Hungary:<sup>11</sup></b>							
1965 <sup>7</sup> .....	100	80.0	76.0	4.0	20.0	15.4	4.6
Original version: 1965 <sup>8</sup> .....	100	76.1	72.3	3.8	23.9	20.0	3.9
Revised version: 1965 <sup>9</sup> .....	100	79.8	71.2	8.6	20.2	15.0	5.2
1970 <sup>7</sup> .....	100	73.2	64.0	9.2	26.8	19.4	7.4
1970 <sup>8</sup> .....	100	76.0	66.6	9.4	24.0	18.8	5.2
1975 <sup>7</sup> .....	100	71.1	61.9	9.2	28.9	23.4	5.5
1975 <sup>9</sup> .....	100	75.2	66.1	9.1	24.8	22.4	2.4
<b>Poland:</b>							
1965 <sup>10</sup> .....	100	72.9	64.1	8.8	27.1	18.8	8.3
1965 <sup>11</sup> .....	100	74.1	65.0	9.1	25.9	17.6	8.3
1965 <sup>12</sup> .....	100	72.1	61.4	10.7	27.9	21.8	6.1
1970 <sup>9</sup> .....	100	71.8	61.9	9.9	28.2	22.0	6.2
1970 <sup>10</sup> .....	100	73.1	62.8	10.3	26.9	20.6	6.3
1970 <sup>11</sup> .....	100	72.1	61.4	10.7	27.9	21.8	6.1
1970 <sup>12</sup> .....	100	74.9	63.6	11.3	25.1	19.1	6.0
1975 <sup>11</sup> .....	100	62.2	52.5	9.7	37.8	31.7	6.1
1975 <sup>12</sup> .....	100	64.9	54.8	10.1	35.1	28.1	7.0
<b>Romania:<sup>13</sup></b>							
1961-65.....	100	75.7	NA	NA	24.3	NA	NA
1966-70.....	100	71.2	NA	NA	28.8	NA	NA
1971-75.....	100	65.9	NA	NA	34.1	NA	NA

<sup>1</sup> In comparable prices: prices of Jan. 1, 1962, through 1970; prices of Jan. 1, 1971, since 1971.

<sup>2</sup> In current prices.

<sup>3</sup> In current prices.

<sup>4</sup> Prices of Jan. 1, 1967.

<sup>5</sup> All years in 1967 prices.

<sup>6</sup> In comparable prices: 1965 prices for the period 1961-65; 1963 prices for later periods.

<sup>7</sup> In current prices.

<sup>8</sup> In comparable prices.

<sup>9</sup> In constant 1961 prices.

<sup>10</sup> In constant 1965 prices.

<sup>11</sup> In constant 1971 prices.

<sup>12</sup> In current prices.

Note: See appendix, notes to tables 4, 5, 14, 15, 16, etc.

Table 5 shows the allocation of "distributed" NMP national income in Eastern Europe for selected years, 1965-1975. As in the instance of Table 4 for the composition of national income produced, Table 5 shows the percentage composition in a number of different price bases as indicated by the footnotes to the table. It is immediately evident that the compositions by end uses in a single year will differ sometimes substantially, depending on the basis of valuation. For example, percentage distributions for Czechoslovakia are shown in current prices (footnote 3) and in constant 1967 prices (footnote 4) for 1966, 1970 and 1975. For 1966, net investment in current prices was 16.5 percent, and in 1967 prices, 20.6 percent; total consumption (shown by its components of personal and collective consumption) accounts for the balance, i.e., 83.5 and 79.4 percent in the respective prices. An impression of the changing structure over time is shown by the entries based on constant January 1, 1967 prices (footnote 4): net investment (accumulation) increases in percentages of NMP national income distributed as follows: 1966—20.6, 1970—23.3, and 1975—26.0; personal consumption declines correspondingly—60.3, 57.9, and 54.5; collective consumption accounting for the residual in the 100 percent was 19.1 in 1966, 18.8 in 1970, and 19.5 in 1975. The percentage distribution in current prices in 1975 was as follows: net investment—28.9, personal consumption—52.3, and collective consumption—18.8. The overall impression in the instance of Czechoslovakia is that net investment is increasing its share in both constant and current prices, while personal consumption is correspondingly declining, collective consumption rising, and total consumption falling.

We leave it to the reader to trace the detailed trends in shares shown in Table 5 for the other countries; we shall consider here only major overall trends. In Bulgaria the tabulated data suggest a somewhat increasing share being allocated to net investment (accumulation) with an offsetting decline in personal consumption. In East Germany, in 1967 prices, the investment share rose from 1965 to 1970 (from 19.9 to 24.0 percent) and then declined by 1975 (to 21.9 percent); consumption reflects offsetting changes. Hungary in constant prices shows fluctuations in the net investment share from 20.2 percent in 1965 to 24.8 percent in 1975; total consumption, as the remaining component in the total shows compensating changes, but collective consumption gains at the expense of personal consumption. In 1971 constant prices Poland experienced a growth in the share of investment from 21.8 in 1965 to 31.7 in 1975; personal consumption provided the major compensating decline (from 61.4 to 52.5). Romanian statistics on final uses appear to be deliberately blurred by being shown as averages over five-year intervals. The general impression conveyed by the table is a sustained substantial increase in the investment share from 24.3 percent in 1961-1965, to 34.1 percent in 1971-1975, with total consumption falling to accommodate this increase.

Table 5 shows allocations to final uses in current prices for selected years. Particular interest is attached to the 1975 current-priced shares as compared to their constant-priced corresponding shares. For the three countries where 1975 permits such comparisons, the percentage shares in current versus constant prices for personal consumption were, respectively, as follows: Czechoslovakia: 52.3 vs. 54.5; Hungary (total consumption): 71.1 vs. 75.2; and Poland: 54.8 vs. 52.5.

### Structure of Employment

A basic insight into the changing structure of economic activity is given by the distribution of employment among sectors of production. This is shown in Table 6 for 1960 and 1974 by major sectors for the CEMA countries of Europe and for other countries of Europe and the United States.<sup>11</sup>

TABLE 6.—ECONOMICALLY ACTIVE POPULATION BY KIND OF ACTIVITY, SELECTED COUNTRIES AND YEARS, 1960-75

Country and year	Total (thousands)	Percent of total population	Percentages of active population in—			
			Non-material services	Industry	Agriculture and forestry	Other
<b>Bulgaria:</b>						
1960.....	NA	NA	9.2	21.9	55.5	13.4
1974.....	1 4, 628	1 51.9	15.0	32.8	30.1	22.1
<b>Czechoslovakia:</b>						
1960.....	6, 062	44.4	14.3	37.3	25.9	22.5
1974.....	7, 357	50.1	19.5	38.4	15.7	26.4
<b>East Germany:</b>						
1960.....	7, 968	46.2	15.3	42.0	17.3	25.4
1974.....	8, 347	49.3	20.3	42.4	11.4	25.9
<b>Hungary:</b>						
1960.....	4, 876	49.0	14.3	28.4	38.9	18.4
1974.....	5, 074	48.6	16.4	35.8	23.3	24.5
<b>Poland:</b>						
1960.....	13, 971	47.5	13.1	23.2	48.0	15.7
1974.....	17, 507	52.0	15.5	30.2	34.6	19.7
<b>Romania:</b>						
1960.....	9, 538	51.6	7.6	15.1	65.6	11.7
1974.....	10, 070	47.6	10.9	29.6	40.0	19.5
<b>U.S.S.R.:</b>						
1960.....	*99, 130	* 47.5	15.4	4 32.3	38.7	13.6
1974.....	* 11, 204	* 47.7	21.7	4 37.7	23.4	17.2
<b>Austria:</b>						
1961.....	3, 370	47.6	19.4	31.1	22.8	26.7
1974.....	3, 023	40.1	17.9	32.2	13.0	36.9
<b>France:</b>						
1962.....	19, 829	42.7	24.0	29.4	19.8	26.8
1974.....	22, 233	42.3	25.4	28.5	11.0	35.1
<b>Spain:</b>						
1960.....	11, 634	38.1	14.9	24.3	41.3	19.5
1974.....	13, 332	37.8	19.5	27.2	23.0	30.3
<b>West Germany:</b>						
1961.....	25, 763	47.7	19.0	40.0	13.4	27.6
1974.....	27, 234	43.9	19.5	41.3	6.6	32.6
<b>Great Britain:<sup>2</sup></b>						
1961.....	24, 617	46.7	27.7	39.3	3.8	29.2
1971.....	25, 715	46.3	28.6	35.6	2.5	33.3
<b>Italy:</b>						
1961.....	20, 173	39.8	16.4	27.8	28.3	27.5
1975.....	19, 436	35.4	* 22.3	33.0	15.1	29.6
<b>United States:</b>						
1960.....	69, 877	39.0	31.6	28.8	6.5	33.1
1974.....	93, 240	44.1	34.0	25.7	4.0	36.3

<sup>1</sup> These figures refer to 1965, but the remaining entries in this row appear to be the percentage distribution of an unstated 1974 total.

<sup>2</sup> 1959, but remaining figures seem to refer to 1960.

<sup>3</sup> 1970, but remaining figures seem to refer to 1974.

<sup>4</sup> Includes construction.

<sup>5</sup> Excluding Northern Ireland.

<sup>6</sup> 1971.

Source: Poland, "Rocznik Statystyczny, 1976."

These data may not be fully comparable as to coverage, but the orders of magnitude are probably close enough for our rough purpose.

<sup>11</sup> Poland, Główny urząd statystyczny, *Rocznik statystyczny, 1976*, p. 54. These summary data from the Polish statistical yearbook were spot checked against the OECD, "Labour Force Statistics, 1963-1974," and found to be fairly consistent. Variations for the spot-checked items were around one percentage point. The Polish source provided a convenient summary and breakdown. The OECD source should provide more detailed definition of categories for Western Europe.

Some general conclusions drawn from this table are: (1) The economically active population in 1974 in the East European countries and the USSR comprises roughly one-half of the total population. In Western Europe and the United States the range is between 35 and 46 percent. The United States and West Germany show 44 percent; Italy is lowest at 35 percent; and Great Britain (1971) highest at 46 percent.<sup>12</sup> (2) As a percentage of the total economically active population, non-material services in Eastern Europe and the USSR have risen from a range of 9 to 15 percent in 1960 to a range of 15 to 22 percent in 1974. For the non-CEMA countries, the corresponding range for 1974 was 18 to 34 percent. (3) The percentage shares for the East European countries for industry have risen markedly from 1960 to 1974 for Bulgaria, Romania, Poland and Hungary; very slight increases appeared in Czechoslovakia and East Germany. For the region as a whole the 1974 range for the share of industry in the total economically active population was between 29 and 42 percent, with East Germany (42 percent) and Czechoslovakia (38 percent) at the top, and Romania and Poland at the bottom (30 percent). The 1974 corresponding range for industry in Western Europe was from 28.5 percent (France) to 41.3 percent (West Germany); for the United States the share was 26 percent. Thus in terms of industry's share in total employment, Eastern Europe is quite similar to Western Europe. (4) Agriculture's share in Eastern Europe fell sharply in all countries between 1960 and 1974. In 1960 the range was from a high of 66 percent in Romania to a low of 17 percent in East Germany. By 1974 this range had diminished to the high of 40 percent in Romania and the low of 11.4 in East Germany. In Western Europe agriculture's share also declined sharply. In 1974 the range was from 23 percent (Spain) to around 2.5 percent (Great Britain); for the United States the percentage was 4.0. The comparison suggests that agriculture still affords a labor reserve for transfer to non-agricultural sectors in Eastern Europe. Such transfer will depend on improved productivity in agriculture and the provision of employment opportunities and housing in the non-agricultural sectors.

Table 7 provides for countries of Eastern Europe the percentage composition of employment and indexes of growth of employment by sectors of production, 1965, 1970 and 1975. So far as the sectoral composition of employment is concerned, the data for 1975 are slightly different from those for 1974 shown in Table 6. The share for industry in the total employment showed only slight increases over the 1965-1975 period for Czechoslovakia, East Germany, Hungary and Poland, very substantial increases occurred in Bulgaria, and particularly in Romania (from 19 to 30 percent). In 1975 the range for the industrial shares for the six countries was from 30 percent (Romania) to 42 percent (East Germany), a remarkable reduction from the range in 1965 from 19 percent (in Romania) to 41 percent in East Germany. For agriculture and forestry the evolution of ranges was from 1965: 58 percent in Romania to 16 percent in East Germany, to 1975: 39 percent in Romania to 11 percent in East Germany.

<sup>12</sup> The 1974 figure for Great Britain indicated by the OECD source cited above was around 44 percent.

TABLE 7.—STRUCTURE AND GROWTH OF EMPLOYMENT BY MAJOR SECTOR, 1965, 1970, AND 1975

[Percent of total; indexes 1965=100]

	Structure (percent)			Indexes 1965=100		
	1965	1970	1975	1965	1970	1975
<b>Bulgaria:</b>						
Industry (including handicrafts).....	26.3	30.4	33.6	100	121.6	143.7
Agriculture and forestry.....	45.3	35.7	28.1	100	83.2	70.0
Construction.....	7.0	8.4	7.9	100	127.2	127.9
Transport and communications.....	5.1	6.0	6.4	100	116.0	132.7
Trade.....	5.2	6.1	7.8	100	124.8	170.7
Other.....	11.1	13.4	16.2	100	129.0	167.0
Total.....	100.0	100.0	100.0	100	105.3	112.6
<b>Czechoslovakia:</b>						
Industry (including handicrafts).....	38.3	38.0	38.5	100	107.7	115.3
Agriculture and forestry.....	21.1	18.3	15.2	100	94.2	82.6
Construction.....	8.0	8.6	9.3	100	116.1	132.2
Transport and communications.....	6.5	6.8	6.5	100	114.4	116.3
Trade.....	8.4	9.0	10.3	100	116.4	140.0
Other.....	17.7	19.3	20.2	100	118.4	131.5
Total.....	100.0	100.0	100.0	100	108.6	114.8
<b>East Germany:</b>						
Industry (including handicrafts).....	41.4	42.1	42.0	100	103.6	105.6
Agriculture and forestry.....	16.1	12.4	11.0	100	78.6	70.9
Construction.....	6.1	8.0	7.5	100	134.0	128.1
Transport and communications.....	7.1	7.2	7.6	100	103.4	111.2
Trade.....	11.5	10.9	10.6	100	96.7	96.2
Other.....	17.8	19.4	21.3	100	110.5	124.6
Total.....	100.0	100.0	100.0	100	101.8	104.1
<b>Hungary:</b>						
Industry (including handicrafts).....	34.3	35.7	35.5	100	111.4	112.9
Agriculture and forestry.....	28.1	24.8	21.1	100	94.9	82.3
Construction.....	6.4	7.5	8.2	100	125.2	140.8
Transport and communications.....	6.9	7.3	7.8	100	113.7	123.8
Trade.....	7.3	8.2	9.1	100	120.5	135.9
Other.....	17.0	16.5	18.2	100	104.2	117.3
Total.....	100.0	100.0	100.0	100	107.2	109.3
<b>Poland:</b>						
Industry (including handicrafts).....	28.6	30.3	30.8	100	119.0	136.2
Agriculture and forestry.....	39.4	34.6	30.6	100	98.8	98.2
Construction.....	6.8	7.3	8.9	100	121.2	165.3
Transport and communications.....	5.9	6.2	6.3	100	119.0	136.2
Trade.....	6.1	6.9	7.5	100	126.5	154.5
Other.....	13.2	14.7	15.9	100	124.3	151.4
Total.....	100.0	100.0	100.0	100	112.3	126.4
<b>Romania:</b>						
Industry (including handicrafts).....	18.8	22.5	30.1	100	122.5	168.0
Agriculture and forestry.....	57.6	50.3	39.1	100	89.3	71.1
Construction.....	6.4	7.6	8.1	100	121.3	132.4
Transport and communications.....	3.5	4.1	4.7	100	117.6	140.4
Trade.....	3.9	4.3	5.5	100	112.4	145.5
Other.....	9.8	11.2	12.5	100	118.9	135.4
Total.....	100.0	100.0	100.0	100	102.4	104.9

Note: See appendix, notes to table 7.

The indexes in Table 7 show the growth of employment by total and by sector, 1965, 1970 and 1975. Total employment increased most in Poland (26 percent) and least in Romania (5 percent) and in East Germany (4 percent). Employment in all sectors grew faster than total employment, except for agriculture and forestry, where it dropped by about 30 percent in Bulgaria, East Germany, and Romania, by about 18 percent in Czechoslovakia and Hungary, and by only 2 percent in Poland, and except for trade, which fell only in East Germany (by 4 percent). The faster growing sectors varied

among countries, but trade, construction, transportation and industry more or less in that order were the leaders. A significant exception here was industry in Romania (an increase of 68 percent, the highest sectoral growth).

Because industry is the largest sector in all countries, the changing composition of employment by branches of industry, 1960-1975, shown in Table 8 may be of interest. In all the countries the machinery branch, comprising metals, general machinery, precision machinery, transport means, and electric-electronic equipment, was from the outset the largest branch and continued to grow over the period. In percentages of total industrial employment, 1960 and 1975 respectively, this branch accounted for 36.4 and 42.5 in East Germany, 34.6 and 37.7 in Czechoslovakia, 27.9 and 31.6 in Hungary, 24.9 and 32.5 in Poland, 24.0 and 35.4 in Romania, and 16.7 and 25.4 (1974) in Bulgaria. Thus, by this indicator, the spread among countries has diminished. Some detail by sub-branches within machinery is shown for some of the countries; in Hungary and Poland (and probably in the other countries as well), the electric-electronic sub-branch has shown very rapid growth. In all of the countries textiles' share was important at the beginning of the period, but this share declined steadily up to 1975. The chemicals branch shows consistent growth over this period throughout the area.

TABLE 8.—STRUCTURE OF EMPLOYMENT BY BRANCHES OF SOCIALIZED INDUSTRY, SELECTED YEARS, 1960-75

[Annual averages and percentage composition]

	Bulgaria				Czechoslovakia <sup>1</sup>				East Germany <sup>1</sup>			
	1960	1965	1970	1974	1960	1965	1970	1975	1960	1965	1970	1975
Total employment (thousands).....	762.5	936.4	1,147.7	1,262.0	2,262.0	2,478.0	2,616.0	2,689.0	2,782.4	2,729.9	2,817.8	3,063.7
Total employment (percent).....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1. Electric power.....	1.6	1.6	1.5	1.4	1.7	1.7	1.7	1.9	9.2	9.5	6.2	6.4
2. Mining and/or fuels.....	5.7	5.6	5.0	4.2	8.1	8.3	6.5	6.3	3.7	4.1	4.3	4.1
3. Metallurgy.....	5.2	6.8	5.9	2.4	8.7	9.1	8.9	8.9	3.7	4.1	4.3	4.1
4. Machinery.....	16.7	19.8	22.5	25.4	34.6	35.8	37.3	37.7	36.4	38.0	41.6	42.5
a. Metal products.....									3.1	3.3		
b. Machinery <sup>2</sup> .....									15.7	17.2		
c. Precision.....									3.4	3.7		
d. Transport.....									6.6	5.3		
e. Electric/electronic.....									7.6	8.5		
5. Chemicals and rubber.....	3.4	4.1	5.3	6.1	4.1	4.5	5.0	5.2	9.7	10.3	11.5	10.9
6. Building materials.....	4.3	5.0	4.2	4.5	4.5	3.9	4.0	3.9	3.3	3.2	3.2	3.1
7. Lumber and wood products.....	10.4	8.8	7.3	6.6	5.0	4.8	4.8	4.9	5.5	5.3		
8. Paper and allied products.....	.9	1.0	1.0	1.1	1.7	1.7	1.6	1.7	2.2	2.1		
9. Textiles.....	12.7	10.0	10.0	10.1	9.8	9.0	8.7	8.4	11.9	10.3	8.8	8.0
10. Other industry.....	22.3	21.3	22.1	24.4	13.4	13.6	13.9	13.6	10.5	9.9	16.7	17.1
11. Food processing and tobacco.....	16.8	16.0	15.2	13.8	8.4	7.6	7.6	7.5	7.6	7.3	7.7	7.9

	Hungary				Poland				Romania			
	1960	1965	1970	1975	1960	1965	1970	1975	1960	1965	1970	1975
Total employment (thousands).....	1,302.7	1,498.1	1,729.0	1,744.0	2,297.0	3,431.5	4,043.6	4,642.0	1,003.4	1,409.3	1,628.9	2,190.6
Total employment (percent).....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1. Electric power.....	2.8	2.7	2.0	2.2	2.2	2.1	2.2	2.2	-----	-----	-----	-----
2. Mining and/or fuels.....	11.1	10.4	8.4	7.3	12.1	11.1	9.9	8.8	8.6	7.1	5.8	4.4
3. Metallurgy.....	6.5	6.1	5.8	5.9	5.7	5.8	5.6	5.5	10.0	8.9	9.0	8.2
4. Machinery.....	27.9	29.4	31.0	31.6	24.9	28.2	31.0	32.5	24.0	25.0	28.3	35.4
a. Metal products.....	4.6	4.3	4.8	4.4	5.4	5.8	6.4	6.9	-----	-----	-----	-----
b. Machinery <sup>3</sup> .....	6.5	7.0	8.8	8.5	7.5	8.4	9.2	9.5	-----	-----	-----	-----
c. Precision.....	2.4	2.8	3.1	3.4	1.1	1.4	1.6	1.8	-----	-----	-----	-----
d. Transport.....	8.2	7.8	6.3	6.2	7.1	8.2	8.7	8.5	-----	-----	-----	-----
e. Electric/electronic.....	6.2	7.5	8.0	9.1	3.8	4.4	5.1	5.8	-----	-----	-----	-----
5. Chemicals and rubber.....	5.0	5.7	6.4	6.8	6.3	6.6	6.8	6.9	4.6	5.9	7.3	7.4
6. Building materials.....	5.3	5.0	4.7	4.7	5.9	5.2	4.9	4.4	3.7	3.6	3.6	3.2
7. Lumber and wood products.....	3.3	3.8	3.1	3.2	5.2	5.0	4.8	4.7	15.4	15.3	13.5	9.9
8. Paper and allied products.....	.7	.8	1.0	.9	1.5	1.4	1.3	1.3	1.2	1.6	1.5	1.4
9. Textiles.....	9.5	9.4	8.4	7.8	12.6	11.4	10.7	10.2	12.7	11.1	11.7	11.8
10. Other industry.....	18.0	17.0	18.8	18.3	11.5	11.1	11.3	11.8	11.9	12.6	12.9	12.8
11. Food processing and tobacco.....	9.9	9.7	10.4	11.3	12.1	12.1	11.5	11.7	7.9	8.9	6.4	5.5

<sup>1</sup> Total industry.

<sup>2</sup> 1960, 1965, and 1970: Ferrous and nonferrous industries; 1974: Ferrous industry only. The data are accordingly not comparable with previous years. One might note the sharp increase in 1974 in the share of "other industry"; this suggests a transfer from metallurgy to the "other" category, which includes an unspecified residual that we placed there.

<sup>3</sup> Not elsewhere specified.

Sources: See notes to tables 7, 8, 22, 23, and employment data in table 24, in the appendix hereto.

## Structure of Fixed Capital

Priorities in fixed capital formation are reflected in Table 9 in terms of shares in total fixed capital and indexes showing growth of fixed capital. In all six countries the share of industry is the largest in the national totals, and this share has increased over the 1965-1975 period. Transport and communications ranks second in this respect in all countries except Poland, where agriculture and forestry come second, and Romania, where transport and communications in 1965 ranked third but by 1975 had risen to second place. Agriculture, with the exceptions noted above, ranked third. The range for the share of industry in 1975 in percentages of the total was from a high of 42 percent in Romania to a low of 27 in Hungary. (These shares of course do not indicate the comparative levels of capital per worker; some of the lower ranking countries, e.g., East Germany and Czechoslovakia should stand above Romania on this count.)

TABLE 9.—OFFICIAL DATA ON THE STRUCTURE AND GROWTH OF FIXED CAPITAL, BY MAJOR SECTOR, 1965, 1970, AND 1975

[Annual average unless otherwise specified; varying valuations as indicated]

	Structure (percent)			Indexes (1965=100)		
	1965	1970	1975	1965	1970	1975
<b>Bulgaria:<sup>1</sup></b>						
Total.....	100.0	100.0	2100.0	100.0	152.1	2204.8
Industry (including forestry).....	26.6	33.1	235.4	100.0	189.0	2272.0
Agriculture.....	14.1	13.3	212.7	100.0	143.0	2184.0
Construction.....	1.3	1.9	22.2	100.0	225.8	2352.1
Transport and communications.....	14.3	13.5	213.6	100.0	143.3	2194.3
Trade.....	1.9	2.2	22.5	100.0	175.4	2268.5
Other material production.....	.1	.1	21.1	100.0	136.2	2205.2
Subtotal: material production.....	58.3	64.1	266.5	100.0	166.9	2233.2
Nonproductive sectors.....	41.7	35.9	233.5	100.0	131.4	2165.1
Of which: housing.....	(30.6)	(24.1)	221.0)	(100.0)	(119.8)	2(140.8)
<b>Czechoslovakia:<sup>3</sup></b>						
Total.....	100.0	100.0	100.0	100.0	120.7	157.0
Industry.....	33.9	34.7	35.0	100.0	123.7	162.3
Agriculture and forestry.....	8.7	8.8	9.0	100.0	123.2	163.9
Construction.....	1.6	2.0	2.4	100.0	144.1	229.7
Transport and communications.....	18.2	17.6	16.3	100.0	117.0	140.5
Trade.....	2.8	3.3	3.8	100.0	142.7	213.6
Other material production.....	.1	.1	.2	100.0	134.9	190.3
Subtotal: material production.....	65.3	65.5	66.7	100.0	123.0	160.4
Nonproductive sectors.....	34.7	33.5	33.3	100.0	116.2	150.7
Of which: housing.....	(23.9)	(22.5)	(21.9)	(100.0)	(113.6)	(143.8)
<b>East Germany:<sup>4</sup></b>						
Total.....	100.0	100.0	100.0	100.0	118.9	146.9
Industry and crafts.....	33.7	36.4	40.1	100.0	128.5	174.5
Agriculture and forestry.....	7.2	8.0	8.3	100.0	132.0	168.1
Construction.....	1.2	1.6	1.8	100.0	163.4	230.5
Transport and communications.....	10.2	9.8	9.7	100.0	113.5	140.2
Trade.....	2.9	3.0	3.2	100.0	125.6	165.2
Other material production.....	.2	.3	.4	100.0	174.1	336.0
Subtotal: material production.....	55.4	59.1	63.5	100.0	126.9	168.6
Nonproductive sectors.....	44.6	40.9	36.5	100.0	109.0	120.0
Of which: housing.....	NA	NA	NA	NA	NA	NA
<b>Hungary:<sup>5</sup></b>						
Total.....	100.0	100.0	2100.0	100.0	126.1	2166.1
Industry.....	22.5	25.0	226.8	100.0	140.3	2197.6
Agriculture and forestry.....	8.4	9.7	211.8	100.0	145.3	2233.1
Construction.....	.7	1.0	21.4	100.0	180.3	2332.4
Transport and communications.....	18.0	16.8	215.0	100.0	117.9	2138.6
Trade.....	1.5	1.9	22.4	100.0	161.7	2259.7
Other material production.....	5.3	4.8	24.9	100.0	113.6	2154.3
Subtotal: material production.....	56.4	59.2	262.3	100.0	132.5	2183.4
Nonproductive sectors.....	43.6	40.8	237.7	100.0	117.9	2143.7
Of which: housing.....	(32.4)	(29.2)	2(26.8)	(100.0)	(113.6)	2(137.2)

See footnotes at end of table.

TABLE 9.—OFFICIAL DATA ON THE STRUCTURE AND GROWTH OF FIXED CAPITAL, BY MAJOR SECTOR, 1955, 1970 AND 1975—Continued

[Annual average unless otherwise specified; varying valuations as indicated]

	Structure (percent)			Indexes (1965=100)		
	1965	1970	1975	1965	1970	1975
<b>Poland:<sup>9</sup></b>						
Total.....	100.0	100.0	100.0	100.0	124.5	163.4
Industry.....	20.2	23.6	28.5	100.0	145.2	230.1
Agriculture and forestry.....	17.2	16.6	15.9	100.0	120.1	151.6
Construction.....	1.1	1.6	2.2	100.0	174.6	319.7
Transport and communications.....	10.1	10.0	10.5	100.0	124.0	170.6
Trade.....	.9	2.1	1.9	100.0	276.7	328.3
Other material production.....	2.8	2.0	2.6	100.0	91.9	154.7
Subtotal: material production.....	52.3	55.9	61.6	109.0	133.1	192.6
Nonproductive sectors.....	47.7	44.1	38.4	100.0	115.0	131.3
Of which: housing.....	(32.4)	(29.5)	(25.9)	(100.0)	(113.3)	(130.6)
<b>Romania: <sup>9</sup> <sup>10</sup></b>						
Total.....	100.0	100.0/100.0	100.0	100.0	151	239
Industry.....	31.8	37.4/ 35.9	41.6	100.0	186	345
Agriculture.....	13.5	12.6/ 11.5	11.4	100.0	134	211
Construction.....	2.4	2.7/ 2.7	3.5	100.0	174	350
Transport and communication.....	<sup>11</sup> 10.9	<sup>11</sup> 11.7/ 11.7	12.1	100.0	149	234
Trade.....	2.3	3.1/NA	NA	100.0	171	NA
Other material production.....	<sup>12</sup> 3	<sup>12</sup> 4/NA	NA	NA	NA	NA
Subtotal: material production.....	61.2	67.9/NA	NA	100.0	167	NA
Nonproductive sectors.....	38.8	32.1/NA	NA	100.0	128	NA
Of which: housing <sup>13</sup> .....	(25.2)	(21.6/ 24.8)	(19.7)	(100.0)	(127)	(161)

<sup>1</sup> At full initial cost; cumulative value of assets added at current prices of the time of acquisition.<sup>2</sup> 1974. Detailed data for 1975 are not yet available.<sup>3</sup> At undepreciated purchase value, in comparable 1967 prices.<sup>4</sup> At undepreciated book value, in comparable 1966 prices.<sup>5</sup> At undepreciated value, in comparable prices of 1968.<sup>6</sup> Beginning of year data (Jan. 1, 1975).<sup>7</sup> Includes personal services.<sup>8</sup> At undepreciated value in prices of 1971.<sup>9</sup> Romanian data for 1970 reflect an expansion of the coverage of fixed capital data, concurrent with the expansion of the official concept of material product. Figures to the left are comparable to 1965 data in the old coverage; figures to the right are comparable to the 1975 data in the new coverage. Value figures to reconcile the 2 concepts are not available, and linked indexes for all sectors and groupings have not been published.<sup>10</sup> Year end data, at full purchase value; 1965 data reflect list prices of the time of acquisition; 1970 and 1975 data reflect prices of 1963.<sup>11</sup> Figures shown here are those given in yearbooks published since 1972; they reflect the redefinition, as of 1970, of all such services as "productive." Earlier data, however, yield larger shares for productive and nonproductive transportation and communications taken together; 16.6 percent in 1965, and 15.9 percent in 1970.<sup>12</sup> Includes forestry (0.1 in 1965 and 0.2 in 1970) as implied by comparison with figures on agriculture including forestry published earlier.<sup>13</sup> Includes communal and miscellaneous nongovernmental services.

Note: See appendix, notes to table 9.

The indexes show fixed capital growing most rapidly in the 1965-1975 period in construction in all countries; transport and communications ranks second in all countries except Romania and East Germany (where industry took precedence), and Czechoslovakia (where trade came second). Industry ranks third in growth except in Czechoslovakia where it yields precedence to agriculture. The miscellaneous "other material production" is not considered in this ranking. Fixed capital in the economy as a whole for 1965-1975 would appear to have grown fastest in Romania (2.4 times) and Bulgaria (2-fold), but fixed capital statistics considered as "real" measures are of dubious quality in these countries. Agriculture showed below average growth in fixed capital in all countries except Czechoslovakia, East Germany and Hungary.

*Dollar Estimates of GNP*

The total and per capita 1975 dollar values of GNP shown in Table 10 provide a rough orientation of the relative standings of the indicated countries. The figures for the six countries of Eastern Europe were calculated as in version B of my article for the previous JEC Compendium,<sup>13</sup> but account was taken of the revision of our GNP indexes, 1965-1975. The data for non-CEMA countries were converted from national currency values into dollars by the OECD 1975 average trade conversion factors. Because the methodologies underlying the estimates are not uniform and the conversion rates subject to improvement, we should allow for some deviation from results that would follow from a uniform methodology for conversions of final use GNP categories by exchange rates reflecting appropriate purchasing power parities of the various national currencies for all the countries that are compared.

According to Table 10, among the six East European countries the rankings in 1975 in current United States dollars per capita, rounded to the nearest 100, were as follows (Table 10): Czechoslovakia and East Germany at the top at 3,700, Hungary and Poland next at 2,400, and Romania and Bulgaria last at 2,200. East German and Czechoslovak GNP per capita in dollars was about 53 percent of that of West Germany and about 51 percent of the United States level. All the other countries of Eastern Europe would be near the level of Greece, and below Italy and Spain. In terms of the total GNP in 1975 in current US dollars, the six countries of Eastern Europe had a smaller total (289.4 billion) than France alone (337.9), and they would account for about one-fifth of the United States total and one-third of the USSR total.

TABLE 10.—TOTAL AND PER CAPITA DOLLAR VALUES OF GNP, 1975

[In 1975 U.S. dollars]

	Total (Billions)	Per capita
1. Bulgaria.....	\$19.0	\$2,180
2. Czechoslovakia.....	54.1	3,660
3. East Germany.....	61.5	3,650
4. Hungary.....	25.2	2,390
5. Poland.....	82.9	2,440
6. Romania.....	46.7	2,200
Total items 1-6.....	289.4	2,730
7. U.S.S.R.....	865.3	3,400
8. France.....	337.9	6,386
9. West Germany.....	423.0	6,842
10. Italy.....	171.6	3,074
11. United Kingdom.....	228.8	4,089
12. Austria.....	38.0	5,051
13. Greece.....	22.8	2,525
14. Spain.....	101.1	2,851
15. Japan.....	491.0	4,425
16. United States.....	1,516.3	7,099

Sources: Items 1-6, See appendix, notes to table 10. Non-CEMA countries: "Statistical Abstract of the United States 1976", p. 877. U.S.S.R.: U.S. Congress, Joint Economic Committee, "Soviet Economy in a New Perspective", p. x.

There are published some estimates of the GNP of Poland and Hungary that may be compared to our figures in Table 10. First, we

<sup>13</sup> Thad P. Alton, "Economic Growth and Resource Allocation in Eastern Europe" in U.S. Congress, Joint Committee Print, "Reorientation and Commercial Relations of the Economies of Eastern Europe," August, 1974, p. 268.

take the figures for Poland published by Dr. Eugenia Krzeczowska of the Institute for Statistical Economic Research in the Polish Main Statistical Office (*Główny urząd statystyczny*).<sup>14</sup> Krzeczowska expanded the Polish official figure for gross national income produced (the net material product plus depreciation on fixed capital in the material product sector) to the United Nations SNA definition of gross domestic product. She did this by adding the net value added by non-material services plus their depreciation of fixed assets and making adjustments for imputations for rent and profit in the housing sector, and by subtracting the value of non-material services bought by the material sectors and appearing in their net material product. (In calculating the net material product national income, only material costs are subtracted from gross output; the non-material costs remain in the net material product of the buying material product sector.) The result was a value for 1974 GDP in zlotys.

In translating the zloty value to US dollars, Krzeczowska proceeded by reference to bilateral France-Poland comparisons of personal consumption from personal incomes in purchasing power indexes of their currencies in 1972 and 1973, and then linked the result to the US dollar. The consumption category was broken down into foods, beverages, clothing, shoes, household equipment, fuel, electricity, water, gas, personal hygienic articles and cultural services. The findings were advanced to 1974 by indexes. For the remaining end-use categories (consumption financed by social funds, investment construction, and machinery and equipment for investment), she proceeded by use of the bilateral United States-Hungary comparison carried out by the United Nations International Comparisons Project (ICP),<sup>15</sup> and bilateral Hungary-Poland comparisons prepared by research and analysis units of the respective national statistical offices. Krzeczowska found that the average relation of the zloty to the dollar in 1974 was \$1.00=20.6 zlotys. She translated the result into Polish GDP per capita in 1974 equal to 2,167 current dollars, and she further roughly extrapolated this to obtain the estimated 1975 per capita Polish GDP at 2,325 US dollars. Our calculation in Table 10 shows 2,440 dollars, about 5 percent above Krzeczowska's estimate.

We may also compare our Table 10 figure for Hungary with the findings of the United Nations ICP Project cited above.<sup>16</sup> The ICP figures we use refer to the 1970 Hungary-United States binary comparison of purchasing power of currencies. The ICP figure for US per capita GDP in 1970 is \$4,798.59. The Hungarian per capita counterpart in Hungarian weights is \$1,554.74. If we advance this figure to 1975 by our index of Hungarian GNP per capita (see Table 12) and apply the US implicit GNP deflator, the Hungarian per capita figure in 1975 dollars becomes \$2,526. Our Table 10 figure is \$2,390. The ICP study also provides figures at US weights and at the Fisher ideal or geometric average weights. Updated to 1975 and expressed in 1975 dollars these figures become 3,703 (US weights) and 3,056 (ideal weights).<sup>17</sup>

<sup>14</sup> Eugenia Krzeczowska, "Dochód narodowy Polski w dolarach" (Polish National Income in Dollars), *Wiadomości statystyczne*, No. 10, pp. 1-3.

<sup>15</sup> See Irving B. Kravis, Zoltan Kenesey, Allen Heston and Robert Summers, "A System of International Comparisons of Gross Product and Purchasing Power." The Johns Hopkins University Press, Baltimore, 1975.

<sup>16</sup> Kravis, et al., *op. cit.*, p. 173.

<sup>17</sup> The US GNP deflator used here is that given in "Survey of Current Business," January 1976, pp. 84-85; *ibid.*, June 1976, p. S-2; and revised figures, 1973-1975, in *ibid.*, February 1977, p. S-2.

International binary comparisons of national products and purchasing powers of currencies face the usual ambiguities under the heading of index number problems. In practical application there are problems of defining products with adequate specificity so as to facilitate the matching of prices, problems of choosing suitable baskets of products for lower level prices indexes, and further problems of determining suitable weights at higher levels of aggregation. In a single country for purposes of intertemporal comparison, the task is very difficult; the analogous international comparisons are even more formidable. All who work to resolve these problems make a valuable contribution to our understanding of comparative economic development, and their work should be seriously studied. The ICP study represents such work.

Binary comparisons have been made also between CEMA countries and between particular CEMA countries and countries of Western Europe. There is always an interest in the extension of a given binary comparison through linkage to other binary comparisons. Thus a comparison of a given CEMA country with a non-CEMA country could be extended to all CEMA countries that already have been compared and to non-CEMA countries that likewise have been compared. What results would follow from a number of such extensions are at this time speculative, and such results might be reassuring or they might strain credulity. In any event, the outcomes should not inhibit further research to place international comparisons on sounder bases.

One possible difficulty here may spring from use of antiquated price lists still in effect in some countries for their internal price index calculations even though a number of products corresponding to such prices no longer are being offered for sale, and those prices have ceased to reflect adequate relative comparability to products actually being offered. Domestically this might conceal the actual extent of the increased cost of living or inflation in other expenditure categories. In Eastern Europe the pressures upon enterprise managements to make a favorable showing are believed to have promoted spurious innovations or design changes to qualify an essentially old product as a "new" one, with a higher price. Of course such manipulation would not be unknown in Western countries, but probably competition would tend to suppress it. How to cope with such a problem is something for economists working on international comparisons to consider.

### III. INDEXES AND RATES OF GROWTH OF NATIONAL PRODUCT

Indexes of real GNP and the NMP national income are shown in Tables 11-16, and the corresponding annual growth rates for the 1965-1976 period are given in Tables 17-21. Both sets of tables present essentially the same information, but more detail is evident in the annual index numbers. Some comparable data on rates of growth are also presented for non-CEMA countries. Methodological comments and source references for the tables are provided in the appendix to this paper.

#### *Indexes of National Product*

Our GNP indexes are calculated as aggregations of indexes of sectors of origin of product in constant prices. Weights for the aggregation of sectors into the overall GNP index are factor cost approxima-

tions of the sectoral shares in a selected base year, generally in the late 1960s. These weights comprise returns to labor, a net return to the current value of fixed and working capital, a return to agricultural land, and depreciation of fixed capital.<sup>18</sup>

The NMP national income measures represent sectoral gross output less material cost, including depreciation. Non-material services are excluded from the NMP measure, although the sales of such services to the material sectors appear as part of the net material product of the purchasing sector. Such purchases, being non-material cost, are not subtracted from gross output in arriving at net material product. The NMP indexes were calculated for successive subperiods in sets of new constant, or comparable, prices for each such subperiod, and the subperiod indexes were chain linked into the index for the entire period. Because the GNP and the NMP national income concepts differ in coverage, methodology and bases of valuation, one should not expect necessarily close agreement in the overall indexes or in corresponding sectoral indexes.

The official NMP measures were taken directly from the national statistical publications. No changes were made to compensate for reclassification of economic activities; such changes in sectoral boundaries are often indicated in footnotes and introductory texts to the national income chapters of the national statistical yearbooks. However, retrospective changes in the published indexes are rarely made: thus there would follow inconsistent coverage in the published series. In the 1965-1975 period Bulgaria and Romania added passenger transportation and communications serving non-material sectors to the material product sphere; Czechoslovakia so far remains the only country among the six that has not made this change.

Not enough detailed information is provided on the official sectoral indexes to make a systematic comparison of their methodology and bases of valuation with ours. It is clear, however, that the official measures in actually realized market prices result in very substantial deformation of the structure of production from what it would be at approximations to factor cost. In the instance of Poland, the state statistical office recalculated the structure of national income (NMP) produced in three sets of approximations to factor cost and compared the results to the structure at the actual, realized market prices.<sup>19</sup> This exercise was emphatically described as only an illustration of the problem. We have indicated the results of the recalculations above.<sup>20</sup>

When prices were adjusted to correct for distortions from cost introduced by turnover tax, other taxes, positive and negative budget differences and subsidies in variant A, and when prices were adjusted in variant B to make them proportional to the cost of direct labor inputs by redistributing the financial accumulation manifested in profits and state levies, and finally, when the revaluation under variant B was augmented in variant C by providing a return to fixed capital, the consequences for the structure of the NMP national income produced were very striking. For the year 1967 the share of industry in total national income fell from 51 percent in realized prices to 41 in variant C; the share of agriculture rose from 19 to 27

<sup>18</sup> See our "Occasional Papers," No. 48, "Statistics on East European Economic Structure and Growth," and No. 50, "Economic Growth in Eastern Europe, 1965-1975," for detailed descriptions of our weights, methodology, and sources. Some revisions have been made for the present paper.

<sup>19</sup> See Poland, Główny urząd statystyczny, *Rocznik dochodu narodowego*, 1971 (Yearbook of National Income, 1971), p. 214 ff.

<sup>20</sup> See p. 211.

percent; transport and communications rose from 8 to 13 percent; and trade fell from 9 to 6 percent. This brief recapitulation of part of what we discussed above is mentioned here to raise the question of what consequences would follow for the rates of growth of the NMP national income and which of its sectors and subsectors would be affected.

One may conclude that the planners in Eastern Europe may have their rationale for the system of market prices, designed in the initial instance to provide convenient revenue flows to the state to implement their plans for investment, collective consumption, and redistribution of income, among other aims, but that such prices mask the economic realities as regards factor costs. Some price reforms have corrected a part of the distortion in earlier prices in some countries at various times, but these reforms were not sufficiently comprehensive, and in some cases have been eroded, so that the official indexes still must be viewed with circumspection.

A further comment on official "constant" prices for a specified time segment seems warranted here. It concerns the pricing of new products. It is believed that new industrial products are introduced at initially high "constant" prices with the intention later to replace these "constant" prices by new, lower constant prices when the scale of production increases, but that such reductions are not made as expected. Moreover, some spurious innovations masking an essentially unchanged product are used by enterprises to set higher constant prices.

Our indexes are not alleged to be beyond fault, but we have tried to maintain a generally consistent approach in the measures for various countries as regards methodology and sectoral weights, among other considerations. Our industrial production indexes reflect civilian production with the exception primarily of Czechoslovakia, where we have made a substantial adjustment to account for production of military hardware. Some representation for military production also was incorporated in the Polish industrial production index. If the output of military hardware does not match the trend in civilian production, our measures would be deficient. We may also be conservative as regards inclusion of new products, but we are limited in our calculations by the sample of products published by the statistical offices of the East European countries. Whether the published series are selective in the sense of showing disproportionately the faster growing series is a matter for speculation, but perhaps on this count there may be some upward bias. In any event, an independent approach to the estimation of trends in production would seem justified.

Tables 11 and 12 present our indexes of overall and per capita real GNP. Both tables show roughly similar trends, but Table 12 shows slower growth because it reflects the population growth in the various countries. The rank by extent of growth is the same in both tables. In the 1965-1976 period Romania was highest in growth of total GNP (87 percent), followed by Poland (77 percent), and Bulgaria (69 percent). The remaining three countries were clustered (at around 40 percent). The range of growth in Table 12 is narrower, from 66 percent (Romania) to 34 percent (Hungary) because the faster growth in total GNP shown in Table 11 was slowed down more when shown per capita in Table 12 in those countries whose

population grew relatively faster. East Germany, with an absolute decline in population, showed higher per capita GNP growth than total GNP growth. The population indexes are shown in Table 1.

TABLE 11.—INDEXES OF REAL GNP, 1965-76 (1965=100)

	Bulgaria	Czecho- slovakia	East Germany	Hungary	Poland	Romania
Year:						
1965.....	100.0	100.0	100.0	100.0	100.0	100.0
1966.....	108.0	104.4	103.0	105.8	106.3	111.4
1967.....	113.9	108.9	106.3	111.8	110.2	116.4
1968.....	116.2	113.8	111.2	113.1	116.8	118.8
1969.....	121.9	115.9	113.8	116.6	115.7	124.2
1970.....	128.8	118.4	116.6	116.2	121.6	127.0
1971.....	133.3	122.5	119.0	121.8	130.2	144.9
1972.....	139.9	126.9	123.4	124.7	139.5	154.0
1973.....	145.7	131.1	127.0	130.9	149.9	159.0
1974.....	150.5	135.9	133.3	135.0	158.8	167.8
1975.....	161.7	139.5	137.6	138.3	167.6	175.0
1976.....	169.2	142.1	140.9	139.9	177.1	187.4

Source: Table 13.

TABLE 12.—INDEXES OF REAL GNP PER CAPITA, 1965-76 (1965=100)

	Bulgaria	Czecho- slovakia	East Germany	Hungary	Poland	Romania
Year:						
1965.....	100.0	100.0	100.0	100.0	100.0	100.0
1966.....	107.3	103.8	102.8	105.5	105.6	110.7
1967.....	112.4	107.8	105.9	111.0	108.7	114.8
1968.....	113.9	112.2	110.8	111.9	113.9	114.6
1969.....	118.5	113.8	113.4	114.9	111.9	118.1
1970.....	124.4	117.0	116.3	114.1	117.8	119.3
1971.....	128.1	120.5	118.7	119.2	125.0	134.7
1972.....	133.8	124.2	123.2	121.7	132.9	141.8
1973.....	138.6	127.5	127.3	127.3	141.5	145.2
1974.....	142.2	131.0	134.1	130.7	148.5	151.8
1975.....	152.0	133.4	139.0	133.1	155.2	156.7
1976.....	158.4	134.9	142.8	134.0	162.4	166.1

Source: Tables 1 and 13. Calculations were done from unrounded indexes.

Table 13 shows the detailed array of our sectoral real GNP indexes and the weights used to combine them into overall GNP. The sectors of construction, trade, transport and communications, and industry are generally the faster growing ones, but their rank varies from country to country. Agriculture in all countries grows less rapidly than overall GNP. Because industry and agriculture are the more heavily weighted sectors, their influence upon the growth of overall GNP is decisive.

Table 14 presents the official NMP sectoral and national income produced indexes. The indexes shown for particular sectors over the 1965-1976 period in particular countries are various, but the faster growing sectors are, as in Table 13, construction, trade, industry and transport and communications, in various order depending on the country. Agriculture shows below average growth in all countries. The impact of weather on agricultural performance appears in the fluctuations of the sectoral index.

The official real NMP national income produced indexes per capita are given in Table 15. They are lower than the corresponding total indexes because Table 15 reflects population growth directly. Only East Germany experienced an absolute decline of population, and accordingly its indexes of per capita growth in Table 15 reach higher levels than the corresponding indexes in Table 14.

TABLE 13.—INDEXES OF REAL GNP BY SECTOR OF ORIGIN, EAST EUROPEAN COUNTRIES, 1965-76

[Indexes 1965=100; weights in percent of GNP]

	Weights <sup>1</sup>	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976
<b>BULGARIA</b>													
GNP.....	100.00	100.0	108.0	113.9	116.2	121.9	128.8	133.3	139.9	145.7	150.5	161.7	169.2
Industry.....	33.35	100.0	110.7	121.6	133.1	143.0	150.5	160.7	166.1	174.9	187.4	198.6	208.5
Agriculture.....	29.23	100.0	106.8	106.4	96.4	97.4	101.9	100.7	107.8	108.5	102.0	113.8	115.5
Forestry.....	.49	100.0	105.6	111.0	107.1	113.5	111.9	107.3	107.6	106.8	104.4	99.3	93.9
Construction.....	6.99	100.0	111.5	122.2	127.4	129.2	138.2	140.0	141.8	145.8	155.8	161.7	169.6
Transportation.....	6.71	100.0	111.6	127.9	143.9	161.2	180.7	194.6	208.2	226.0	244.8	261.8	277.8
Communications.....	.66	100.0	105.5	110.3	115.2	121.6	128.4	134.8	139.7	145.9	145.7	147.8	146.2
Trade.....	5.90	100.0	108.6	121.1	130.2	140.3	151.3	161.2	171.8	187.0	204.1	219.7	235.7
Housing.....	6.45	100.0	103.4	107.1	110.9	115.2	119.8	124.4	129.4	135.6	141.1	147.2	152.8
Other material production.....	1.54	100.0	102.1	101.5	104.9	106.2	110.6	110.3	123.0	132.2	136.4	182.0	225.0
Government and other services.....	8.68	100.0	104.3	108.1	112.5	118.7	123.8	126.8	132.1	136.9	142.3	147.2	155.1
<b>CZECHOSLOVAKIA</b>													
GNP.....	100.00	100.0	104.4	108.9	113.8	115.9	118.4	122.5	126.9	131.1	135.9	139.5	142.1
Industry.....	39.73	100.0	102.8	108.1	112.2	115.3	122.7	126.3	131.7	136.9	141.9	147.6	152.5
Agriculture.....	19.31	100.0	112.6	119.5	129.3	127.6	117.2	121.3	124.8	129.9	131.1	131.8	127.2
Forestry.....	.97	100.0	90.2	100.3	94.8	97.6	105.9	108.0	107.1	108.3	113.2	115.8	120.5
Construction.....	5.40	100.0	105.4	110.7	112.6	109.7	117.5	125.7	129.4	132.0	137.3	142.7	147.6
Transport.....	8.64	100.0	102.8	102.5	105.9	106.7	113.3	118.9	124.8	126.6	133.4	136.8	140.6
Communications.....	1.30	100.0	103.0	103.7	104.2	104.7	106.6	109.3	111.0	115.2	121.2	124.0	127.5
Trade.....	6.95	100.0	105.0	110.8	124.5	133.8	135.4	143.1	151.5	160.5	172.3	177.5	183.5
Housing.....	8.97	100.0	100.9	101.5	101.5	103.5	104.5	105.9	107.5	109.1	110.8	112.7	114.9
Government and other services.....	8.73	100.0	101.5	105.5	108.6	112.7	112.7	115.9	116.9	118.2	122.0	124.2	125.4
<b>EAST GERMANY</b>													
GNP.....	100.00	100.0	103.0	106.3	111.2	113.8	116.6	119.0	123.4	127.0	133.3	137.6	140.9
Industry.....	41.24	100.0	102.6	105.7	111.8	116.6	121.0	124.2	126.5	130.0	136.3	142.6	148.4
Agriculture and forestry.....	15.84	100.0	104.5	109.5	111.5	105.9	102.0	98.2	110.8	111.4	120.2	117.7	108.6
Construction.....	5.39	100.0	106.5	114.3	126.9	137.1	145.0	151.9	157.2	164.6	172.4	181.2	190.8
Transport and communications.....	7.07	100.0	103.6	106.0	111.7	114.5	123.9	132.0	134.3	138.8	144.5	152.4	163.7
Trade.....	9.55	100.0	104.2	108.2	113.4	119.5	124.4	129.0	136.9	144.7	153.7	159.2	164.7
Housing.....	8.20	100.0	101.0	101.7	102.9	103.8	104.1	104.5	105.6	107.0	108.5	110.1	111.8
Miscellaneous.....	2.23	100.0	102.7	112.1	126.8	127.7	123.9	127.0	128.7	143.8	156.4	163.3	174.1
Government and other services.....	10.48	100.0	103.3	101.5	103.6	105.4	106.9	108.9	110.3	113.2	115.8	118.6	121.2

HUNGARY													
GNP	100.00	100.0	105.8	111.8	113.1	116.6	116.2	121.8	124.7	130.9	135.0	138.3	139.9
Industry	32.82	100.0	104.2	108.3	112.8	114.0	112.9	120.7	122.2	127.2	132.5	137.9	141.3
Agriculture	26.50	100.0	111.8	122.3	115.3	122.4	100.3	110.9	113.4	122.7	121.6	121.7	115.6
Forestry	.61	100.0	103.9	110.0	114.7	112.6	118.6	126.0	129.4	129.6	129.3	132.5	132.5
Construction	5.19	100.0	107.7	115.5	133.1	134.3	145.6	156.1	156.4	160.6	168.7	172.1	179.8
Transportation	8.18	100.0	103.8	108.3	109.4	112.1	118.3	121.0	123.4	130.9	138.4	139.1	139.1
Communications	1.16	100.0	104.1	107.3	111.4	112.9	119.1	121.2	125.0	129.1	134.7	136.2	136.2
Trade	6.56	100.0	106.9	116.9	124.8	135.9	149.4	162.3	168.0	178.8	194.0	198.8	211.9
Housing	8.98	103.0	102.7	104.3	104.6	105.0	105.3	107.1	108.8	111.5	113.7	116.1	118.7
Water management	1.74	100.0	93.5	102.1	109.0	112.7	178.7	188.5	213.4	202.3	204.8	213.4	221.5
Government and other services	8.26	100.0	101.8	104.1	104.9	107.4	112.1	117.0	124.0	129.9	135.3	140.9	146.3
POLAND													
GNP	100.00	100.0	106.3	110.2	116.8	115.7	121.6	130.2	139.5	149.9	158.8	167.6	177.1
Industry	35.28	100.0	105.4	111.8	119.6	127.4	135.8	144.2	155.2	167.3	178.6	196.2	210.0
Agriculture	23.89	100.0	108.9	107.9	114.0	95.2	99.3	107.3	112.8	116.7	114.2	106.5	105.4
Forestry	.80	100.0	104.0	102.4	103.9	100.2	99.3	99.1	97.4	104.4	112.9	121.1	121.1
Construction	8.17	100.0	106.0	115.1	124.5	134.1	144.8	156.4	170.0	204.5	232.8	247.1	258.2
Transport and communications	8.72	100.0	108.5	113.8	123.1	128.8	135.9	152.2	171.2	186.6	216.6	246.5	277.6
Trade	6.54	100.0	106.7	114.7	121.5	126.9	131.8	141.3	158.4	174.6	188.7	207.1	227.4
Housing	7.24	100.0	103.0	105.9	108.9	111.9	114.9	121.1	124.3	127.8	131.8	136.1	140.6
Government and other services	9.36	100.0	102.6	106.6	109.4	112.1	113.9	118.8	124.3	129.1	133.6	139.2	145.8
ROMANIA													
GNP	100.00	100.0	111.4	116.4	118.8	124.2	127.0	144.9	154.0	159.0	167.8	175.0	187.4
Industry	30.58	100.0	112.2	124.8	137.0	151.9	169.9	184.8	199.5	219.7	244.5	260.6	280.9
Agriculture and forestry	37.29	100.0	114.4	113.2	105.5	104.0	94.7	120.5	129.1	124.4	121.8	122.7	133.3
Construction	6.92	100.0	105.6	111.9	123.0	134.1	142.7	160.7	162.7	163.6	176.7	162.7	169.5
Transport and communications	6.36	100.0	111.7	124.5	138.7	150.3	164.3	176.3	186.2	199.6	216.9	255.3	266.7
Trade	6.09	100.0	110.0	120.0	131.0	137.0	149.0	163.0	173.0	186.0	205.0	221.0	240.0
Housing	4.86	100.0	102.2	104.3	106.6	108.6	111.3	114.4	117.3	120.1	123.1	126.3	129.9
Other material production	.60	100.0	115.5	118.3	123.8	127.4	122.2	129.0	124.8	131.2	145.4	138.0	144.2
Government and other services	7.30	100.0	104.8	108.6	110.5	113.4	111.9	114.4	117.6	116.5	119.9	124.6	127.5

<sup>1</sup> Weights are percentages of total GNP at adjusted factor cost in indicated base years: Bulgaria, 1968; Czechoslovakia, 1967; East Germany, 1968; Hungary, 1969; Poland, 1969; and Romania 1968.

Note: See appendix, notes to table 13.

TABLE 14.—INDEXES OF NET MATERIAL PRODUCT BY ORIGIN, EAST EUROPEAN COUNTRIES, 1965-76

[In constant prices, 1965 equals 100]

	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976
<b>Bulgaria:</b>												
NMP.....	100	111.1	125.1	129.0	141.9	152.0	162.6	174.8	188.5	203.7	221.9	237.5
Industry.....	100	111.3	126.1	145.4	164.7	180.2	196.4	212.6	232.5	261.3	281.1	( <sup>1</sup> )
Agriculture.....	100	114.1	109.5	90.9	96.5	95.5	93.6	100.3	100.3	92.6	104.1	( <sup>1</sup> )
Forestry.....	100	104.2	110.0	106.6	112.6	111.1	( <sup>1</sup> )					
Construction.....	100	116.1	135.6	155.1	163.4	178.4	185.5	142.7	214.1	225.4	244.4	( <sup>1</sup> )
Transport and communications.....	100	112.7	127.6	141.5	147.2	161.7	177.9	194.0	216.7	249.0	274.9	( <sup>1</sup> )
Trade.....	100	99.3	122.4	130.0	147.1	165.4	188.6	206.8	253.1	287.8	397.4	( <sup>1</sup> )
Other.....	100	95.7	107.4	134.1	114.3	100.8	( <sup>1</sup> )					
<b>Czechoslovakia:</b>												
NMP.....	100	109.2	114.9	123.2	132.2	139.7	147.4	155.8	163.9	173.6	184.4	191.8
Industry.....	100	106.8	111.1	117.3	125.0	134.9	142.5	148.7	156.3	167.2	181.4	( <sup>1</sup> )
Agriculture and forestry.....	100	121.0	129.0	141.0	148.7	138.5	143.8	145.1	149.4	150.3	148.9	( <sup>1</sup> )
Construction.....	100	119.0	127.7	133.8	134.9	142.6	156.5	177.5	185.2	197.1	206.4	( <sup>1</sup> )
Transport and communications.....	100	98.0	109.6	110.5	112.9	111.1	122.0	131.5	133.7	142.0	149.0	( <sup>1</sup> )
Trade.....	100	111.2	117.8	142.3	173.3	189.9	193.7	213.0	232.7	243.2	248.3	( <sup>1</sup> )
Other.....	100	124.8	138.1	164.5	205.1	219.7	212.7	215.2	234.5	247.6	265.0	( <sup>1</sup> )
<b>East Germany:</b>												
NMP.....	100	105.0	110.8	116.8	122.2	129.2	134.6	142.4	149.9	159.5	167.2	173.4
Industry.....	100	105.0	110.8	117.5	124.9	132.5	139.5	146.7	155.6	165.5	175.6	186.0
Agriculture and forestry.....	100	104.8	111.3	110.6	102.8	108.6	103.5	116.5	116.1	124.9	120.9	109.0
Construction.....	100	106.5	114.3	126.9	137.1	145.0	151.9	157.2	164.6	172.4	181.2	190.8
Transport and communications.....	100	103.6	106.0	111.7	114.5	123.9	132.0	134.3	138.8	144.5	152.4	( <sup>1</sup> )
Trade.....	100	105.2	110.0	115.1	124.9	129.9	138.0	147.0	157.6	169.2	177.6	( <sup>1</sup> )
Other.....	100	102.7	112.0	126.8	127.7	123.9	127.0	128.7	143.8	156.4	163.3	( <sup>1</sup> )

Hungary:												
NMP	100	108.2	117.0	122.8	132.6	139.1	148.1	155.6	167.2	178.8	188.5	94.1
Industry	100	109.4	119.0	126.1	131.7	142.4	150.5	161.3	175.0	190.9	202.8	(1)
Agriculture and forestry	100	110.0	111.0	110.2	123.1	101.5	110.2	113.9	122.6	120.6	118.0	(1)
Construction	100	106.2	120.5	129.8	142.0	156.1	166.4	168.9	177.3	191.8	208.2	(1)
Transport and communications	100	105.0	115.7	126.1	136.7	148.8	157.4	165.3	179.6	191.4	198.5	(1)
Trade	100	104.9	116.7	125.9	135.2	152.8	169.3	180.4	195.5	215.5	237.9	(1)
Other	100	105.4	124.4	130.0	156.4	218.2	212.4	208.9	208.9	221.0	224.3	(1)
Poland:												
NMP	100	107.1	113.2	123.4	127.0	133.6	144.5	159.7	177.0	195.5	213.0	229.0
Industry	100	107.1	114.8	125.6	136.1	145.4	157.7	174.1	194.2	217.6	242.4	(1)
Agriculture and forestry	100	104.8	104.4	113.7	93.8	97.3	104.5	109.5	113.6	111.3	103.9	(1)
Construction	100	108.9	121.7	133.2	141.7	146.4	153.6	186.4	216.8	246.4	273.6	(1)
Transport and communications	100	104.8	104.4	113.7	93.8	97.3	104.5	109.5	113.6	111.3	103.9	(1)
Trade	100	104.8	110.1	122.8	130.9	134.8	147.5	160.6	180.7	204.8	228.7	(1)
Other	100	125.4	142.3	136.9	180.0	179.2	186.2	211.5	248.5	270.0	289.2	(1)
Romania:												
NMP	100	110.0	118.0	126.0	136.0	145.0	164.0	181.0	200.0	225.0	247.0	273.0
Industry	100	110.0	125.0	140.0	158.0	182.0	203.0	229.0	268.0	304.0	339.0	(1)
Agriculture <sup>1</sup>	100	116.0	115.0	107.0	109.0	97.0	127.0	136.0	129.0	126.0	126.0	(1)
Construction	100	108.0	124.0	140.0	151.0	176.0	193.0	209.0	220.0	232.0	253.0	(1)
Transport and communications	100	110.0	122.0	134.0	143.0	155.0	168.0	185.0	205.0	223.0	262.0	(1)
Trade	100	88.0	76.0	77.0	60.0	24.0	(1)	(1)	(1)	(1)	(1)	(1)
Other <sup>2</sup>	100	110.0	119.0	125.0	127.0	127.0	(1)	(1)	(1)	(1)	(1)	(1)

<sup>1</sup> Not available.<sup>2</sup> Excludes forestry. Forestry is not included either in agriculture or in the residual "other" sectors in the indexes as shown here, but is included in the total NMP.

Note: Price bases and NMP coverages vary; see appendix, notes to tables 4, 5, 14, 15, 16, 19, 20, 21, and 24

TABLE 15.—INDEXES OF NET MATERIAL PRODUCT PRODUCED PER CAPITA, 1965–76  
[Indexes 1965=100]

	Bulgaria	Czecho- slovakia	East Germany	Hungary	Poland	Romania
1965.....	100.0	100.0	100.0	100.0	100.0	100.0
1966.....	110.3	108.5	104.8	107.8	106.4	109.3
1967.....	119.9	113.7	110.4	116.2	111.6	116.4
1968.....	126.4	121.4	116.4	121.5	120.3	121.6
1969.....	138.0	129.8	121.8	130.7	122.9	129.3
1970.....	146.8	138.0	128.9	136.5	129.4	136.2
1971.....	156.2	144.9	134.3	145.0	138.7	152.4
1972.....	167.2	151.9	142.2	151.9	152.1	166.7
1973.....	179.3	159.4	150.3	162.7	167.1	182.7
1974.....	192.5	167.4	160.4	173.2	182.8	203.6
1975.....	208.7	176.4	168.9	181.4	197.2	221.2
1976.....	222.3	182.0	175.7	185.9	210.0	242.0

Note: Calculated from official NMP indexes in table 14 and population data in table 1; calculations were done from unrounded figures.

We have not maintained up-to-date indexes of final uses of GNP in Eastern Europe. The official indexes, 1965–1975, of the NMP national income distributed are shown in Table 16. The immediate conclusion that this table conveys for all countries is that net investment (accumulation) grew faster than the average shown by the total NMP national income distributed, and total consumption, comprising personal consumption and collective or social consumption, grew slower than the average. Within the total consumption, the collective consumption (shown as “other” in the table) index grew faster than personal consumption. In East Germany, a singular instance, the collective consumption index (“other”) grew faster than net investment.

TABLE 16.—INDEXES OF NET MATERIAL PRODUCT DOMESTICALLY DISTRIBUTED, TOTAL AND COMPONENTS, AND PER CAPITA, 1965, 1970, AND 1975  
[At constant prices; indexes 1965=100]

	Total NMP			NMP per capita		
	1965	1970	1975	1965	1970	1975
<b>Bulgaria:</b>						
Consumption, total.....	100	141.3	<sup>1</sup> 199.3	100	136.5	<sup>1</sup> 187.4
Personal.....	100	140.0	<sup>1</sup> 195.4	100	135.3	<sup>1</sup> 183.7
Other.....	100	165.4	n.a.	100	159.8	n.a.
Net capital formation.....	100	167.1	<sup>1</sup> 284.7	100	161.4	<sup>1</sup> 267.7
NMP distributed, total.....	100	149.0	<sup>1</sup> 220.8	100	143.9	<sup>1</sup> 207.6
<b>Czechoslovakia:</b>						
Consumption, total.....	100	130.5	169.0	100	128.9	161.7
Personal.....	100	130.1	164.6	100	128.5	157.4
Other.....	100	131.7	182.8	100	130.1	174.9
Net capital formation.....	100	191.1	287.1	100	188.8	274.7
NMP distributed, total.....	100	139.7	187.7	100	138.0	179.6
<b>East Germany:</b>						
Consumption, total.....	100	125.7	162.8	100	125.4	164.5
Personal.....	100	123.2	157.1	100	122.9	158.7
Other.....	100	143.3	208.3	100	143.0	210.4
Net capital formation.....	100	160.3	184.1	100	160.0	186.0
NMP distributed, total.....	100	133.0	167.0	100	132.7	168.7
<b>Hungary:</b>						
Consumption, total.....	100	135.3	173.7	100	132.8	167.2
Personal.....	100	133.6	171.0	100	131.2	164.6
Other.....	100	149.2	196.0	100	146.4	188.7
Net capital formation.....	100	172.9	226.6	100	169.7	218.1
NMP distributed, total.....	100	139.1	188.5	100	136.5	181.4
<b>Poland:</b>						
Consumption, total.....	100	130.6	197.7	100	126.4	183.1
Personal.....	100	127.9	192.1	100	123.9	177.8
Other.....	100	150.2	239.2	100	145.4	221.4
Net capital formation.....	100	137.3	327.2	100	132.9	302.9
NMP distributed, total.....	100	132.3	232.6	100	128.1	215.3

<sup>1</sup> Estimates from incomplete preliminary data.

Note: These data are not entirely comparable among countries. See the appendix, notes to tables 4, 5, 14, 15, 16, 19, 20, 21, and 24.

Personal consumption is not uniformly defined among the countries of Eastern Europe; in some instances it refers to material products and material services bought by the population from their personal incomes; in other instances it also includes some state financed consumption by the population. In all categories of national income distributed the reference is to material product. The total available for distribution differs from the total NMP national income produced by the import (or export) surplus and by losses of national income produced. Accordingly, the indexes of total NMP national income distributed may differ from those of the NMP national income produced.

### *Rates of Growth of National Product*

The annual indexes of GNP and NMP national income provide detailed observations on economic trends, but they do not contribute to the more facile interpretations made possible by annual average rates of growth over selected periods of years. We show below such rates calculated by least squares fittings of the exponential growth equation,  $I_n = I_0(1+r)^n$ , to the annual observations. Here,  $r$  is the compound rate of growth,  $n$  the number of years, and the  $I$  refers to the index values. Tables 17 to 21 make explicit the average rates of growth implicitly shown by the annual indexes in earlier tables.

In Table 17 are shown the average annual rates of growth of GNP (or GDP) for six countries of Eastern Europe and for selected other countries. The rates for Eastern Europe are based on our GNP estimates; those for other countries are GDP (gross domestic product) rates provided in the most recent United Nations *Yearbook of National Account Statistics*. Economic growth in 1974-1975 was depressed in the United States, Japan and Western Europe as a consequence of the sharply increased prices of imported petroleum and other factors.

TABLE 17.—AVERAGE ANNUAL RATES OF GROWTH OF GROSS DOMESTIC PRODUCT PER CAPITA, 1965-76  
[At constant prices; percent]

	1965-70	1970-75	1965-75	1976
<b>East European countries:</b>				
Bulgaria.....	4.1	3.9	3.9	4.2
Czechoslovakia.....	3.2	2.7	2.9	1.1
East Germany.....	3.2	3.8	3.3	2.7
Hungary.....	2.7	3.2	2.7	.7
Poland.....	3.0	5.8	4.4	4.6
Romania.....	3.1	5.1	4.4	6.0
	1965-70	1970-74	1965-74	1975
<b>Other countries:</b>				
France.....	5.0	4.3	4.8	-3.1
West Germany.....	4.0	2.6	3.7	-3.1
Italy.....	5.4	3.0	4.1	-4.4
United Kingdom.....	1.8	2.8	2.2	-1.6
Austria.....	4.4	5.1	5.0	-1.7
Greece.....	6.6	4.9	6.4	4.7
Spain.....	5.2	5.9	5.4	.1
Japan.....	10.6	5.5	8.5	1.0
United States.....	2.5	2.5	2.2	-2.6

Sources: East European countries: Calculated by least squares fit of  $I_n = I_0(1+r)^n$  to indexes in table 13. Other countries: United Nations, "Yearbook of National Account Statistics," 1975, table 4A. (Also by least squares fit.) 1975: United States, "Statistical Abstract," 1976, p. 877 (GNP rates).

Comparison among countries and between the six CEMA countries on one hand and the nine non-CEMA countries on the other at best can be superficial. Ideally one should compare performance of countries at about equal levels of economic development and under circumstances where some extraordinary exogenous factors do not disrupt the course of development. However, if we disregard these strictures and simply consider the performance of the countries in the same time spans, a general impression of comparative rates of growth may be gained. We have noted earlier in our discussion of the sectoral composition of employment and national product that at least from that point of view the countries of Eastern Europe are becoming more like the Western countries, although considerable disparities still exist among the countries in each group and between the two groups.

In the 1965-1970 period the overall impression is that the non-CEMA countries, with the notable exception of the United Kingdom and the United States, grew much more rapidly than the countries of Eastern Europe. The unweighted average rate for Eastern Europe was 3.2 percent; for the group of other countries the corresponding rate was 5.1 percent, despite the roughly 2 percent rate shown by the United Kingdom and the United States. The ready-made rates for the other countries are given in our source for 1970-1974, a shorter period than the 1970-1975 span for Eastern Europe, for which we computed the average rates. Thus comparison of the average performance of the two groups is not so immediately gained from the table. However, if we take into account the rates for 1975 shown in the last column of the table for the "other countries," it seems clear that Eastern Europe on the whole grew faster, around 4.1 percent on the average. Over the longer span, 1965-1975 for Eastern Europe and shorter, 1965-1974 period for the other countries, the latter group shows a higher average rate. Inclusion of 1975 in a least squares fit for the 1965-1975 period for the latter group should lower somewhat its average rate since 1975 witnessed largely negative or sharply decreased growth rates for this group.

Averages, such as the ones noted above, hide the more interesting individual country trends. Within Eastern Europe the less developed countries, Romania, Bulgaria and Poland, showed higher rates of growth than the remaining countries. In the non-CEMA group, Japan was the best performer. The less developed countries, Greece and Spain, grew faster than the other countries in this group. The United States and the United Kingdom ranked lowest in rate of growth.

The overall growth rates shown in Table 17 are shown in sectoral detail in Table 18 for the East European countries. These rates confirm the general impression gained from our examination of the corresponding sectoral indexes shown in Table 13. Trade, construction, and transport and communications stand out in most countries as the more rapidly growing sectors over subperiods of 1965-1975 and over the period as a whole. Industry, the largest sector, shows considerably above average rates of growth except in Hungary in the 1970-1975 period. In Romania industry grew faster than any other sector. Agriculture and forestry grew more slowly than overall GNP in all countries except East Germany and Hungary in the 1970-1975 period. Housing also was a below average growth sector.

TABLE 18.—GROWTH OF GNP BY SECTOR OF ORIGIN, 1965-76<sup>1</sup>

[Average annual rates at constant prices; percent]

	1965-70	1970-75	1965-75	1976
<b>Bulgaria:</b>				
GNP.....	4.8	4.5	4.6	4.6
Industry (including handicrafts).....	8.6	5.6	6.8	5.0
Agriculture and forestry.....	-0.8	1.7	.7	1.4
Construction.....	6.2	3.3	4.2	4.9
Transport and communications.....	11.9	7.4	9.6	5.7
Trade.....	8.7	7.9	8.0	7.3
Housing.....	3.7	4.2	4.0	3.8
Government and other services.....	4.4	3.6	4.0	5.4
<b>Czechoslovakia:</b>				
GNP.....	3.5	3.4	3.3	1.9
Industry (including handicrafts).....	4.1	3.8	4.0	3.3
Agriculture and forestry.....	3.5	2.5	2.0	-3.1
Construction.....	2.7	3.7	3.5	3.4
Transport and communications.....	2.1	3.7	3.2	2.8
Trade.....	7.0	5.8	6.0	3.4
Housing.....	.9	1.5	1.2	2.0
Government and other services.....	2.7	1.9	2.1	1.0
<b>East Germany:</b>				
GNP.....	3.2	3.5	3.2	2.4
Industry (including handicrafts).....	4.1	3.3	3.6	4.1
Agriculture and forestry.....	.4	3.9	1.2	-7.7
Construction.....	8.1	4.5	6.1	5.3
Transport and communications.....	4.2	3.9	4.4	7.4
Trade.....	4.5	5.3	4.8	3.5
Housing.....	.8	1.2	.9	1.5
Government and other services.....	1.2	2.1	1.6	2.2
<b>Hungary:</b>				
GNP.....	3.1	3.6	3.1	1.2
Industry (including handicrafts).....	3.4	3.1	3.0	2.5
Agriculture and forestry.....	.7	3.8	1.1	-4.9
Construction.....	8.0	3.2	5.6	4.5
Transport and communications.....	3.2	3.0	3.4	0
Trade.....	8.3	6.0	7.4	6.6
Housing.....	.9	2.0	1.3	2.2
Government and other services.....	2.1	4.8	3.6	3.8
<b>Poland:</b>				
GNP.....	3.8	6.7	5.2	5.7
Industry (including handicrafts).....	6.4	7.6	6.9	7.0
Agriculture and forestry.....	-1.1	1.7	.8	-1.0
Construction.....	7.8	12.3	9.7	4.5
Transport and communications.....	6.3	12.5	9.1	12.6
Trade.....	5.8	9.7	7.4	9.8
Housing.....	2.8	3.3	3.2	3.3
Government and other services.....	2.7	4.1	3.3	4.7
<b>Romania:</b>				
GNP.....	4.5	6.1	5.6	7.1
Industry (including handicrafts).....	11.0	9.2	10.1	7.8
Agriculture and forestry.....	-1.8	3.8	1.9	8.6
Construction.....	7.7	2.7	6.0	4.2
Transport and communications.....	10.5	8.6	9.0	4.5
Trade.....	8.1	8.1	8.0	8.6
Housing.....	2.1	2.5	2.4	2.8
Government and other services.....	2.4	1.9	1.8	2.3

<sup>1</sup> By least squares fit of  $I_t = I_0 (1+r)^t$ . Calculated from table 13.

Overall NMP national income per capita growth rates for the East European countries are shown in Table 19 for the 1965-1976 period and for subperiods. The least developed country, Romania, shows the highest growth rates, averaging 8.1 percent over the 1965-1975 period. In the same period the other countries in descending order of growth rate per capita were Bulgaria (7.3), Poland (6.9), Hungary (6.0), Czechoslovakia (5.7), and East Germany (5.4). For the more recent period of 1970-1975, the rank order is the same as for 1965-1975, except that Poland precedes Bulgaria. The less developed countries grew faster than the more developed ones in terms of NMP national income per capita; this conclusion follows also from our earlier consideration of GNP growth rates.

TABLE 19.—AVERAGE ANNUAL RATES OF GROWTH OF NET MATERIAL PRODUCT PRODUCED PER CAPITA, 1965-76<sup>1</sup>  
[At constant prices; percent]

	1965-70	1970-75	1965-75	1976
Bulgaria.....	7.8	7.3	7.3	6.5
Czechoslovakia.....	6.5	5.0	5.7	3.2
East Germany.....	5.2	5.7	5.4	4.0
Hungary.....	6.4	6.0	6.0	2.5
Poland.....	5.3	9.0	6.9	6.5
Romania.....	6.2	10.2	8.1	9.4

<sup>1</sup> By least squares fit of  $I_n = I_0(1+r)^n$ , calculated from table 15.

Table 20 shows average annual growth rates of total and sectoral NMP national income produced, 1965-1976. The growth rates for the total correspond closely to those shown for the per capita total rates in Table 19, but are lower in Table 19 because of the increasing populations in all countries except East Germany, for which the conclusion must be reversed. The rank of sectors by rates of growth of net material product shows considerable similarity among the countries. Agriculture is the slowest growing sector. The anomalous negative 21 percent rate for Romanian trade for 1965-1970 is some kind of statistical aberration probably springing from the definition of NMP in trade to include price equalization outcomes in foreign and/or domestic trade, rather than an approximation to services actually rendered by trade. Nevertheless, the strange behavior of the trade NMP index seems to have been incorporated into the overall NMP national income in constant prices. What the procedure in this respect is for the post-1970 years is not explained in the few sources we have seen, but the discontinuation of the index for "other" suggests that some masking may occur here pending a revision of concepts and methodology. In all countries, trade, construction, and industry, more or less in descending order of growth rate, are the faster growing sectors (with the official Romanian trade NMP index a special case, as noted).

TABLE 20.—AVERAGE ANNUAL RATES OF GROWTH OF NET MATERIAL PRODUCT PRODUCED, BY SECTOR OF ORIGIN  
1965-76<sup>1</sup>

	1965-70	1970-75	1965-75	1976
[At constant prices; percent]				
<b>Bulgaria:</b>				
NMP, total.....	8.6	7.8	8.0	7.0
Industry (includes handicrafts).....	13.0	9.5	10.9	NA
Agriculture (excludes forestry).....	-2.6	1.1	-7	NA
Construction.....	12.3	6.8	8.6	NA
Transport and communications.....	9.9	11.4	10.2	NA
Trade.....	11.3	16.0	13.2	NA
Other.....	2.3	NA	NA	NA
<b>Czechoslovakia:</b>				
NMP, total.....	6.8	5.7	6.1	4.0
Industry (includes handicrafts).....	5.9	5.9	6.0	NA
Agriculture and forestry.....	6.9	1.5	3.1	NA
Construction.....	6.5	7.7	7.0	NA
Transport and communications.....	2.8	5.7	4.2	NA
Trade.....	14.5	6.2	10.2	NA
Other.....	17.3	4.3	9.3	NA

See footnotes at end of table.

TABLE 20.—AVERAGE ANNUAL RATES OF GROWTH OF NET MATERIAL PRODUCT PRODUCED, BY SECTOR OF ORIGIN  
1965-76—Continued

[At constant prices; percent]

	1965-70	1970-75	1965-75	1979
<b>Hungary:</b>				
NMP, total.....	6.8	6.4	6.4	3.0
Industry (includes handicrafts).....	7.0	7.6	7.1	NA
Agriculture and forestry.....	1.2	3.2	1.3	NA
Construction.....	8.9	6.2	7.4	NA
Transport and communications.....	8.5	6.2	7.4	NA
Trade.....	8.8	9.0	9.2	NA
Other.....	15.8	.7	9.3	NA
<b>East Germany:</b>				
NMP, total.....	5.2	5.4	5.3	3.7
Industry.....	5.8	5.8	5.8	5.9
Agriculture and forestry.....	1.0	3.2	1.7	-9.8
Construction.....	8.1	4.5	6.1	5.3
Transport and communications.....	4.2	3.9	4.4	NA
Trade.....	5.5	6.6	6.0	NA
Other.....	5.4	6.2	4.6	NA
<b>Poland:</b>				
NMP, total.....	6.0	10.0	7.7	7.5
Industry (includes handicrafts).....	8.0	10.9	9.2	NA
Agriculture and forestry.....	-1.1	1.6	.7	NA
Construction.....	8.3	14.4	10.3	NA
Transport and communications.....	6.3	12.3	9.0	NA
Trade.....	6.7	11.3	8.5	NA
Other.....	12.0	11.1	10.5	NA
<b>Romania:</b>				
NMP, total.....	7.6	11.2	9.4	10.5
Industry (includes handicrafts).....	12.7	13.7	13.3	NA
Agriculture (excludes forestry).....	-1.2	3.6	2.3	NA
Construction.....	12.0	7.2	9.9	NA
Transport and communications.....	9.2	10.7	9.5	NA
Trade.....	-21.0	* NA	* NA	NA
Other <sup>2</sup> .....	4.9	NA	NA	NA

<sup>1</sup> By least squares fit of  $I_n = I_0(1+r)^n$ . Calculated from table 14.<sup>2</sup> Forestry is not included among the residual "other" sectors, but is included in total NMP.<sup>3</sup> Publication of an NMP series for the trade sector was discontinued in Romanian statistical sources after 1970. An evidently revised series for the trade sector of Romania appears in CEMA yearbooks, without, however, any methodological clarifications or any concomitant revision of the measures for the growth of NMP as a whole. The CEMA series, thus, does not seem to be consistent with the main body of Romanian NMP statistics.

Table 21 shows average annual growth rates for the NMP national income domestically distributed, 1965-1975, by totals of indicated categories and also per capita for the overall national income distributed. The domestically distributed NMP national income differs from the NMP national income produced by the import (or export) surplus and the losses of national income produced. (An import surplus allows more to be distributed than was produced; losses operate in the opposite sense.) The interested reader can trace for himself the variations in the rates for the total national income distributed overall and per capita shown in Table 21 and the corresponding rates for national income produced (Tables 19 and 20). Factors accounting for differences most probably are to be found in variations in agricultural output, state policy with respect to augmenting consumption by means of foreign loans, and eventual repayment of such borrowings by export surpluses.

TABLE 21.—AVERAGE ANNUAL RATES OF GROWTH OF NET MATERIAL PRODUCT DOMESTICALLY DISTRIBUTED, 1965-75<sup>1</sup>

[At constant prices; percent]

	1965-70	1970-75	1965-75
<b>Bulgaria:</b>			
NMP used, total .....	8.0	8.7	7.3
NMP used, per capita .....	7.3	8.1	6.6
Consumption, total .....	7.4	7.0	7.0
Personal consumption .....	7.2	6.8	7.0
Net capital formation .....	9.3	13.7	8.3
<b>Czechoslovakia:</b>			
NMP used, total .....	7.0	6.3	6.4
NMP used, per capita .....	6.7	5.7	6.0
Consumption, total .....	6.0	5.4	5.5
Personal consumption .....	5.9	5.0	5.2
Net capital formation .....	12.1	9.3	9.8
<b>East Germany:</b>			
NMP used, total .....	5.5	5.1	5.4
NMP used, per capita .....	5.6	5.3	5.5
Consumption, total .....	4.7	5.5	5.1
Personal consumption .....	4.3	5.2	4.7
Net capital formation .....	8.6	3.7	6.6
<b>Hungary:</b>			
NMP used, total .....	7.0	4.8	6.2
NMP used, per capita .....	6.6	4.4	5.8
Consumption, total .....	6.1	5.1	5.8
Personal consumption .....	5.8	5.1	5.6
Net capital formation .....	10.3	4.0	7.5
<b>Poland:</b>			
NMP used, total .....	5.8	12.3	8.7
NMP used, per capita .....	5.0	11.2	7.9
Consumption, total .....	5.5	8.5	6.8
Personal consumption .....	5.1	8.4	6.5
Net capital formation .....	6.3	20.3	12.7

<sup>1</sup> By least squares fit of  $I_n = I_0(1+r)^n$ . See appendix, notes to tables 4, 5, 14, 15, 16, 19, 20, 21, and 24.

Note: Data for Romania are not available.

It is clear from Table 21 that over the 1965-1975 period net capital formation took priority over personal consumption in all the countries. The exception to this regularity is found only in the 1970-1975 subperiod and only in East Germany and Hungary, where consumption showed higher average annual rates of growth. Within the consumption total, personal consumption never exceeded and rarely equalled the rate of growth of total consumption, implying that collective consumption grew faster than personal consumption. Romania does not publish annual indexes of end uses of national income and therefore could not be included in Table 21.

#### IV. RATES OF GROWTH OF FACTOR INPUTS AND LABOR AND CAPITAL PRODUCTIVITIES

##### *Labor Inputs and Labor Productivity With Respect to GNP*

Table 22 shows average annual rates of growth of employment in the national economies overall and by GNP sectors, and Table 23 presents the corresponding rates of growth of labor productivity. Poland ranks first in the annual rates of increase of total employment in 1965-1975 and in the 1965-1970 and 1970-1975 subperiods, with average rates around 2.3 to 2.5 percent. For the long span, 1965-1975, Czechoslovakia ranks second (1.4 percent), Bulgaria third (1.1 percent), Hungary fourth (1.0 percent), and East Germany and Romania last (0.4 percent). For the most recent subperiod, the ranking is practically the same as that just noted for 1965-1975, except Bulgaria becomes second, swapping rank with Czechoslovakia.

TABLE 22.—AVERAGE ANNUAL GROWTH RATES OF EMPLOYMENT, 1965-76<sup>1</sup>

	1965-70	1970-75	1965-75	1976 <sup>2</sup>
<b>Bulgaria:</b>				
Total	1.0	1.4	1.1	1.5
Industry (including handicrafts)	4.0	3.3	3.4	1.1
Agriculture and forestry	-3.7	-3.1	-3.5	-5.0
Construction	4.3	2.2	2.6	-2.2
Transport and communications	2.9	2.6	2.6	4.3
Trade	4.7	6.2	5.7	6.1
Other sectors	5.1	5.4	5.1	11.0
<b>Czechoslovakia:</b>				
Total	1.6	1.1	1.4	.8
Industry (including handicrafts)	1.4	1.4	1.4	.6
Agriculture and forestry	-1.3	-2.7	-2.0	-2.4
Construction	2.9	2.7	2.8	1.2
Transport and communications	2.8	4.4	1.6	0
Trade	3.5	3.7	3.8	3.0
Other sectors	3.5	2.1	2.7	2.6
<b>East Germany:</b>				
Total	.4	.4	.4	.6
Industry (including handicrafts)	.8	.4	.5	.7
Agriculture and forestry	-5.2	-2.2	-3.7	-7
Construction	7.1	9.9	2.6	1.6
Transport and communications	.5	1.6	1.3	.8
Trade	-7	-1	-6	.4
Other sectors	2.0	2.3	2.3	.7
<b>Hungary:</b>				
Total	1.5	.4	1.0	.1
Industry (including handicrafts)	2.5	.4	1.3	-.1
Agriculture and forestry	-2.9	-2.9	-1.9	-1.6
Construction	4.0	2.2	3.6	2.3
Transport and communications	2.6	1.6	2.4	2.1
Trade	4.0	2.4	3.4	1.5
Other sectors	.7	2.3	1.7	2.8
<b>Poland:</b>				
Total	2.4	2.5	2.3	.9
Industry (including handicrafts)	3.6	2.8	3.1	.5
Agriculture and forestry	-3	1	2	0
Construction	4.3	6.9	5.1	-1.5
Transport and communications	3.4	2.7	3.1	1.0
Trade	4.3	4.6	5.0	.9
Other sectors	5.1	4.1	3.9	4.8
<b>Romania:</b>				
Total	.5	.5	.4	NA
Industry (including handicrafts)	3.9	6.6	5.4	NA
Agriculture and forestry	-2.1	-4.5	-3.5	NA
Construction	4.1	1.7	3.2	NA
Transport and communications	3.0	3.4	3.4	NA
Trade	2.2	5.4	3.9	NA
Other sectors	3.6	2.5	2.7	NA

<sup>1</sup> By least squares fit of  $I_n = I_0(1+r)^n$ .<sup>2</sup> Preliminary.

Note: Figures here reflect GNP concept sectoral definitions. See the appendix, notes to tables 7, 8, 22, 23, etc.

TABLE 23.—AVERAGE ANNUAL RATES OF GROWTH OF LABOR PRODUCTIVITY, 1965-76<sup>1</sup>

[At constant prices; percent]

	1965-70	1970-75	1965-75	1976
<b>Bulgaria:</b>				
GNP	3.8	3.1	3.5	3.1
Industry (including handicrafts)	4.5	2.2	3.2	3.8
Agriculture and forestry	3.0	5.0	4.4	6.8
Construction	1.8	3.5	1.6	5.0
Transport and communications	8.7	4.7	6.8	1.3
Trade	3.8	1.5	2.2	1.2
<b>Czechoslovakia:</b>				
GNP	1.8	2.2	1.9	1.0
Industry (including handicrafts)	2.7	2.3	2.6	2.7
Agriculture and forestry	4.9	5.4	4.0	-.8
Construction	-.2	1.0	.7	2.3
Transport and communications	-7	3.3	1.6	2.8
Trade	3.4	2.0	2.1	.4
<b>East Germany:</b>				
GNP	2.9	3.0	2.8	1.8
Industry (including handicrafts)	3.2	2.8	3.0	3.4
Agriculture and forestry	6.0	6.2	5.1	7.1
Construction	.9	6.5	3.4	3.6
Transport and communications	3.7	3.2	3.1	6.6
Trade	5.2	5.4	5.8	3.0

See footnote at end of table.

TABLE 23.—AVERAGE ANNUAL RATES OF GROWTH OF LABOR PRODUCTIVITY, 1965-76<sup>1</sup>—Continued

	1965-70	1970-75	1965-75	1976
<b>Hungary:</b>				
GNP.....	1.5	3.2	2.1	1.0
Industry (including handicrafts).....	.9	2.6	1.7	3.5
Agriculture and forestry.....	1.7	6.9	3.2	-3.4
Construction.....	3.8	1.0	1.9	4.1
Transport and communications.....	.6	2.0	1.3	-2.1
Trade.....	4.1	3.5	3.9	5.0
<b>Poland:</b>				
GNP.....	1.3	4.1	2.8	4.8
Industry (including handicrafts).....	2.7	4.6	3.6	6.5
Agriculture and forestry.....	-.8	1.9	1.0	-1.0
Construction.....	3.4	5.0	4.4	6.0
Transport and communications.....	2.8	9.6	5.9	11.6
Trade.....	1.4	4.8	2.3	8.8
<b>Romania:</b>				
GNP.....	4.0	5.6	5.2	NA
Industry (including handicrafts).....	6.8	2.4	4.4	NA
Agriculture and forestry.....	.4	8.6	5.6	NA
Construction.....	3.4	1.0	2.7	NA
Transport and communications.....	7.2	5.1	5.5	NA
Trade.....	5.8	2.6	4.0	NA

<sup>1</sup> By least squares fit of  $I_n = I_0 (1+r)^n$ . Calculated from annual average employment and the GNP indexes in table 13.

Note: Figures reflect GNP concept definitions. See the appendix, notes to tables 7, 8, 22, 23, etc.

The expected and notable decline in employment in agriculture and forestry is evident for each of the countries. The annual rates of decline in this sector are highest in East Germany, Bulgaria, and Romania, followed by Czechoslovakia and Hungary. Poland shows insignificant negative rates of growth of agricultural employment over the entire period. In most of the countries, the trade sector shows the most rapid rates of growth; in second rank come construction and industry, with some change in order of ranking in the various countries.

Increases in employment and the associated average annual rates of increase of employment reflect the demographic structure of the population and the participation rates of the population in employment. Here, we shall consider briefly only the changes in participation rates for 1960, 1970, and 1974. Participation in the tabulation below is defined as the number of persons actually engaged in economic activity per 100 of the relevant total population, identified by T = total population, M = total male population, and F = total female population. For the sake of comparison, some Western countries are included in the tabulation. The data for the six East European countries are taken from their national statistical publications; those for the USSR and Western countries are taken from Table 6.

## EMPLOYMENT PARTICIPATION RATES

	1960	1970	1974
<b>Eastern Europe and U.S.S.R.:</b>			
<b>Bulgaria:</b>			
T.....	50.3	48.9	50.3
M.....	60.4	55.2	.....
F.....	40.2	42.6	.....
<b>Czechoslovakia:</b>			
T.....	44.2	49.0	50.0
M.....	51.7	54.2	53.6
F.....	37.1	44.7	46.7
<b>East Germany:</b>			
T.....	47.1	48.1	49.4
M.....	59.7	56.1	55.9
F.....	37.0	41.3	43.6

See footnotes at end of table.

## EMPLOYMENT PARTICIPATION RATES—Continued

	1960	1970	1974
Eastern Europe and U.S.S.R.—			
Hungary:			
T.....	47.3	48.4	48.4
M.....	63.2	58.0	55.9
F.....	32.4	39.1	41.3
Poland:			
T.....	47.5	51.9	52.0
M.....	55.4	57.7	57.8
F.....	40.3	46.4	46.7
Romania: T.....	51.8	48.8	47.9
U.S.S.R.: T.....	147.5	-----	47.7
Western countries:			
Austria: T.....	347.6	-----	40.1
France: T.....	342.7	-----	42.3
Spain: T.....	38.1	-----	37.8
West Germany: T.....	347.7	-----	43.9
Great Britain (excluding Northern Ireland): T.....	346.7	-----	46.3
Italy: T.....	339.8	-----	35.4
United States: T.....	39.0	-----	44.1

1 1959. \* 1961. # 1962. † 1975.

In Eastern Europe and the USSR, the participation rates in the total population (T) by 1974 had reached around 50 percent. There was an increase from 1960 to 1970 in five of the six East European countries (Bulgaria shows a slight decline), but from 1970 to 1974 the rates remained relatively unchanged. Some declines in the male participation rates were offset by gains in female participation, notably in Czechoslovakia, East Germany, Hungary, and to a lesser extent, Bulgaria. The highest participation rates are shown in Poland, and more detailed information in the Polish source shows that high rates in agriculture (Totals: 1960=58.1, 1970=62.7, and 1974=62.1, with almost equal rates for males and females) raise the average rates for the economy as a whole.

Participation rates in Western countries have declined from 1960 to 1974, and for the latter year fall in the range of 35.4 (Italy, 1975) to 46.3 (Great Britain), with the United States and West Germany about 44 and the remaining countries between 38 and 42. The comparison suggests that the Western countries apparently have more scope for increasing their participation rates than the countries of Eastern Europe. An explanation of the diverse rates of participation no doubt would entail examination of national customs, achieved levels of economic efficiency and output, the need to maintain or desire to raise the level of living of family units, the changing status of women to greater equality vis-a-vis men, and a host of other related socio-economic and cultural considerations that cannot be analyzed here.

Table 23 shows average annual rates of growth of labor productivity (GNP divided by employment). In the most recent interval, 1970-1975, for total GNP, the rankings in percentage rates of growth of labor productivity from highest to lowest were as follows: Romania (5.6), Poland (4.1), Hungary (3.2), Bulgaria (3.1), East Germany (3.0), and Czechoslovakia (2.2). This ranking represents some striking changes from the 1965-1970 period; Romania still ranks first (4.0), Bulgaria comes second (3.8), followed by East Germany (2.9),

Czechoslovakia (1.8), Hungary (1.5), and Poland (1.3). For most countries the more recent period shows higher rates for overall GNP. In industry, in the 1970-1975 period, labor productivity growth rates declined from 1965-1970 in four countries (Bulgaria, Czechoslovakia, East Germany, and Romania) and increased in two (Poland and Hungary). We leave it to the reader to study the various detailed changes by country, sector, and time periods. Agriculture experienced a poor year in 1976 in terms of labor productivity in four of the five countries shown in Table 23; Bulgaria evidently had a good year.

We do not show here the capital productivities (GNP divided by capital stock), in indexes or annual average growth rates, because of misgivings as to the quality of the fixed capital series for some of the countries and their compability with our GNP series. However, a general impression of capital productivity trends may be gained by examining the data in Table 9 on official indexes of fixed capital and Table 13 showing our overall real indexes of GNP and its production sectors. The general impression is that capital grew faster than the corresponding gross value added in production, but there were a few exceptions.

*Labor and Capital Productivities With Respect to NMP National Income*

Table 24 presents indexes based on official East European data on NMP national income produced, employment, and fixed capital for the overall national income and three major material product sectors. The indexes of labor productivity (net material product per unit of labor) are calculated by dividing the NMP originating index by the corresponding employment index; the indexes of capital productivity (net material product per unit of fixed capital) are constructed in the same manner. The capital-labor ratio index is the quotient of the fixed capital index over the employment index.

TABLE 24.—INDEXES OF NET MATERIAL PRODUCT, OF EMPLOYMENT AND FIXED CAPITAL OF COMPARABLE COVERAGE, LABOR PRODUCTIVITY, CAPITAL PRODUCTIVITY, AND CAPITAL-LABOR RATIOS, 1965, 1970, AND 1975

[Indexes, 1965=100]

	1965	1970	1975
<b>Bulgaria:</b>			
NMP originating, total.....	100	152.0	* 203.7
Employment, material sectors.....	100	102.2	* 105.6
Fixed capital, material sectors.....	100	166.9	* 205.2
Labor productivity, material sectors.....	100	148.7	* 192.9
Capital productivity, material sectors.....	100	91.1	* 99.3
Capital, labor ratio.....	100	163.3	* 194.3
Industry, NMP originating.....	100	180.2	* 261.3
Employment.....	100	121.6	* 138.0
Fixed capital.....	100	189.0	* 272.0
Labor productivity.....	100	148.2	* 189.3
Capital productivity.....	100	95.3	* 96.1
Capital, labor ratio.....	100	155.4	* 197.1
Agriculture, NMP originating.....	100	95.5	* 92.6
Employment.....	100	82.5	* 73.1
Fixed capital.....	100	143.0	* 184.0
Labor productivity.....	100	115.8	* 126.7
Capital productivity.....	100	66.8	* 50.3
Capital, labor ratio.....	100	173.3	* 251.7
Construction, NMP originating.....	100	178.4	* 228.4
Employment.....	100	127.2	* 127.4
Fixed capital.....	100	225.8	* 352.1
Labor productivity.....	100	140.3	* 179.3
Capital productivity.....	100	79.0	* 64.9
Capital, labor ratio.....	100	177.5	* 276.4

See footnotes at end of table.

TABLE 24.—INDEXES OF NET MATERIAL PRODUCT, OF EMPLOYMENT AND FIXED CAPITAL OF COMPARABLE COVERAGE, LABOR PRODUCTIVITY, CAPITAL PRODUCTIVITY, AND CAPITAL-LABOR RATIOS, 1965, 1970, AND 1975—Continued

[Indexes, 1965=100]

	1965	1970	1975
<b>Czechoslovakia:</b>			
NMP originating, total .....	100	139.7	184.4
Employment, material sectors <sup>a</sup> .....	100	106.4	111.3
Fixed capital, material sectors <sup>a</sup> .....	100	124.3	164.4
Labor productivity .....	100	131.3	165.7
Capital productivity .....	100	112.4	112.2
Capital, labor ratio .....	100	116.8	147.7
Industry, NMP originating .....	100	134.9	181.4
Employment .....	100	107.7	115.3
Fixed capital .....	100	123.7	162.3
Labor productivity .....	100	125.3	157.3
Capital productivity .....	100	109.1	111.8
Capital, labor ratio .....	100	114.9	140.8
Agriculture, NMP originating <sup>1</sup> .....	100	138.5	148.9
Employment <sup>1</sup> .....	100	94.2	82.6
Fixed capital <sup>1</sup> .....	100	123.2	163.9
Labor productivity .....	100	147.0	180.3
Capital productivity .....	100	112.4	90.8
Capital, labor ratio .....	100	130.8	198.4
Construction, NMP originating .....	100	142.6	206.4
Employment .....	100	116.1	132.2
Fixed capital .....	100	144.1	229.7
Labor productivity .....	100	122.8	156.1
Capital productivity .....	100	99.0	89.9
Capital, labor ratio .....	100	124.1	173.8
<b>East Germany:</b>			
NMP originating, total .....	100	129.2	167.2
Employment, material sectors .....	100	99.5	96.8
Fixed capital, material sectors .....	100	126.9	168.6
Labor productivity .....	100	129.8	172.7
Capital productivity .....	100	101.8	99.2
Capital, labor ratio .....	100	127.5	174.2
Industry, NMP originating .....	100	132.5	175.6
Employment .....	100	103.6	105.6
Fixed capital .....	100	128.5	174.5
Labor productivity .....	100	127.9	166.3
Capital productivity .....	100	103.1	100.6
Capital, labor ratio .....	100	124.0	165.2
Agriculture, NMP originating <sup>1</sup> .....	100	108.6	120.9
Employment <sup>1</sup> .....	100	78.6	70.9
Fixed capital <sup>1</sup> .....	100	132.0	168.1
Labor productivity .....	100	138.2	170.5
Capital productivity .....	100	82.3	71.9
Capital, labor ratio .....	100	167.9	237.1
Construction, NMP originating .....	100	145.0	181.2
Employment .....	100	134.0	128.1
Fixed capital .....	100	163.4	230.5
Labor productivity .....	100	108.2	141.5
Capital productivity .....	100	88.7	78.6
Capital, labor ratio .....	100	121.9	179.9
<b>Hungary:</b>			
NMP originating, total .....	100	139.1	188.4
Employment, material sectors .....	100	107.8	108.0
Fixed capital, material sectors .....	100	132.5	183.4
Labor productivity .....	100	129.0	174.4
Capital productivity .....	100	105.0	102.7
Capital, labor ratio .....	100	122.9	169.8
Industry, NMP originating .....	100	142.4	202.8
Employment .....	100	111.4	112.9
Fixed capital .....	100	140.3	197.6
Labor productivity .....	100	127.8	179.6
Capital productivity .....	100	101.5	102.6
Capital, labor ratio .....	100	125.9	175.0
Agriculture, NMP originating <sup>1</sup> .....	100	101.5	118.0
Employment <sup>1</sup> .....	100	94.9	82.3
Fixed capital <sup>1</sup> .....	100	145.3	233.1
Labor productivity .....	100	107.0	143.4
Capital productivity .....	100	69.9	50.6
Capital, labor ratio .....	100	153.1	283.2
Construction, NMP originating .....	100	156.1	208.2
Employment .....	100	125.2	140.8
Fixed capital .....	100	180.3	332.4
Labor productivity .....	100	124.7	147.9
Capital productivity .....	100	86.6	62.6
Capital, labor ratio .....	100	144.8	236.1

See footnotes at end of table.

TABLE 24.—INDEXES OF NET MATERIAL PRODUCT, OF EMPLOYMENT AND FIXED CAPITAL OF COMPARABLE COVERAGE, LABOR PRODUCTIVITY, CAPITAL PRODUCTIVITY, AND CAPITAL-LABOR RATIOS, 1965, 1970, AND 1975—Continued

[Indexes, 1965=100]

	1965	1970	1975
<b>Poland:</b>			
NMP originating, total .....	100	133.6	213.0
Employment, material sectors .....	100	109.5	120.7
Fixed capital, material sectors .....	100	133.1	192.6
Labor productivity .....	100	122.0	176.5
Capital productivity .....	100	100.4	110.6
Capital, labor ratio .....	100	121.6	159.6
Industry, NMP originating .....	100	145.4	242.4
Employment .....	100	119.0	136.2
Fixed capital .....	100	145.2	230.1
Labor productivity .....	100	122.2	178.0
Capital productivity .....	100	100.1	105.3
Capital, labor ratio .....	100	122.0	168.9
Agriculture, NMP originating <sup>1</sup> .....	100	97.3	103.9
Employment <sup>1</sup> .....	100	98.8	98.2
Fixed capital <sup>1</sup> .....	100	120.1	151.6
Labor productivity .....	100	98.5	105.8
Capital productivity .....	100	81.0	68.5
Capital, labor ratio .....	100	121.6	154.4
Construction, NMP originating .....	100	146.4	273.6
Employment .....	100	121.2	165.3
Fixed capital .....	100	174.6	319.7
Labor productivity .....	100	120.8	165.5
Capital productivity .....	100	83.8	85.6
Capital, labor ratio .....	100	144.1	193.4
<b>Romania:</b>			
NMP originating, total .....	100	145.0	247.0
Employment, material sectors .....	100	101.2	102.6
Fixed capital, material sectors .....	100	166.7	291.7
Labor productivity .....	100	143.3	240.7
Capital productivity .....	100	86.8	84.7
Capital, labor ratio .....	100	165.0	284.3
Industry, NMP originating .....	100	182.0	339.0
Employment .....	100	122.5	168.0
Fixed capital .....	100	186.0	345.0
Labor productivity .....	100	148.6	201.8
Capital productivity .....	100	97.8	98.3
Capital, labor ratio .....	100	151.8	205.4
Agriculture, NMP originating .....	100	97.0	126.0
Employment .....	100	89.3	70.9
Fixed capital .....	100	134.0	211.0
Labor productivity .....	100	108.6	177.7
Capital productivity .....	100	72.4	59.7
Capital, labor ratio .....	100	150.1	297.6
Construction, NMP originating .....	100	176.0	253.0
Employment .....	100	121.3	132.4
Fixed capital .....	100	174.0	350.0
Labor productivity .....	100	145.1	191.1
Capital productivity .....	100	101.1	72.3
Capital, labor ratio .....	100	143.4	264.4

<sup>1</sup> Includes forestry.

<sup>2</sup> 1974.

<sup>3</sup> Employment and fixed capital in passenger transportation and communications services officially defined as not belonging to material production are not included here.

Source: See appendix, notes to tables 4, 5, 14, . . . and 24.

The indexes of labor productivity, capital productivity, and the capital per unit of labor ratio are of particular interest. Some reservations as to the correspondence of these indexes to some standard of acceptability based on consistency of the output measures over time in relation to corresponding consistency of the labor and capital measures should be made clear.

The labor series probably are the most consistent over time despite some changes in number of work days per week or per year and changes in hours worked per day, week or year. We have noted also that administrative changes sometimes shift non-productive labor from government into a material production sector, thus affecting con-

sistency in the labor input series. Nevertheless, so far as uniformity and consistency are concerned, the labor indexes probably are more satisfactory than the output and capital indexes. We have already noted the repercussions upon output indexes that one might expect as consequences of linking segments of the output indexes calculated at different prices. Our concern with regard to the capital series relates to the constancy of their valuation (Bulgaria and Romania are notable here). The procedures for establishing "constant" prices may in fact result in prices close to current, perhaps significantly inflated, prices: What the net result of such pricing may be when taken into account with the official output series, also probably inflated to some degree because of the pricing procedures for new products, is speculative. But it would appear less hazardous to use the official capital indexes in conjunction with the official NMP output indexes than in conjunction with our GNP indexes. In any event, the results shown in Table 24 may indicate some significant trends in economic activity.

With few exceptions, labor productivity over the 1965-1975 period has grown less rapidly than its corresponding output measure. The exceptions are agriculture in all six countries and total national income-labor productivity in East Germany. Over the 1965-1970 period, the observation that we made for 1965-1975 holds here as well, together with the same exceptions. By shifting the indexes shown in Table 24 to 1970=100, one may see that this observation holds also for 1970-1975, but with the changes that labor productivity in Bulgarian agriculture grew less rapidly than the NMP in that sector, and labor productivity growth exceeded the growth of NMP in East German construction.

A comparison of the increase in labor productivity in the two subperiods, 1965-1970, and 1970-1975, presents a mixed picture. This will be evident upon comparing the 1970 index (Table 24, 1965=100) with the 1975 index (1970=100, not shown in Table 24). In Bulgaria, the growth of labor productivity was slower in 1970-1975 than in the previous period for national income as a whole and for each of the three indicated sectors. The same observation holds for Czechoslovakia, except that industrial labor productivity rose insignificantly in the more recent period. In East Germany in the 1970-1975 period as compared to 1965-1970, labor productivity increased slightly in industry and substantially in construction, but fell in agriculture. Similarly Hungary registered improvement except for a small decline in construction. Poland showed improvement in all the indicated sectors. Finally, Romania showed increases under overall national income labor productivity and in agriculture, but presented declines in industry and construction. The general impression based on the summary measure of the labor productivity index with respect to the overall growth of national income is that in Bulgaria and Czechoslovakia the rate of growth of labor productivity has declined; in East Germany it has leveled off, and in Poland and Romania it has increased significantly.

In all countries for overall NMP national income and its component sectors, the capital productivity indexes have grown much more slowly than the corresponding output measures in the overall 1965-1975 period and in both of the subperiods. A comparison of trends in capital productivity in the 1965-1970 and 1970-1975 subperiods may be made

from the data shown in Table 24 by juxtaposing the index for 1970 based on 1965=100 with an index for 1975 based on 1970=100 (not shown in Table 24). A mixed impression follows from such a comparison. In general, capital productivity in both subperiods in the various countries showed trends over the five-year intervals falling within a range of a maximum 12.4 percent increase (with respect to Czechoslovak overall national income in 1965-1970) to a maximum decline of 33.2 percent (in Bulgarian agriculture in 1965-1970). At the overall national income level, the capital productivity indexes in the 1965-1970 period (1965=100) and in the 1970-1975 period (1970=100), respectively, were as follows: Bulgaria—91.1 vs 109.0; Czechoslovakia—112.4 vs 99.8; East Germany—101.8 vs 97.4; Hungary—105.0 vs 97.8; Poland—100.4 vs 110.2; and Romania—86.8 vs 97.6. For the production sectors shown in Table 24 the declines outnumbered the increases by 12 to 6 in each of the subperiods. The capital productivity indexes for the industry sectors of the six countries in the two subperiods fell within a range of 9.1 percent maximum increase (Czechoslovakia in the 1965-1970 period) to a maximum decline of 2.4 percent (East Germany in 1970-1975). There is not much significance to be read into these figures; the labor productivity measures implicitly reflect the cooperation of capital in production.

We have refrained from calculating joint factor productivities in the present paper. The capital/labor ratio indexes (reflecting the amount of capital per unit of labor) show overall higher gains in 1970-1975 (five countries) than in 1965-1970 (one country). The interested reader may wish to trace the comparisons by subperiods for particular sectors of production. However, one may observe that this measure as well as the capital productivity measure may reflect variant behavior over time depending upon investment priorities, and regulations concerning length of productive life of machinery, other equipment, and structures. If the observed trend toward setting sharply higher depreciation rates signifies actual shorter production lives and accordingly stepped-up scrapping rates, the capital measures shown in Table 24 would have to be interpreted accordingly. In any event one would have to consider the impact of technology upon factor productivities and output.

Much of the fixed capital stock in East European countries has become obsolescent when judged by Western standards. In an effort to speed up the elimination of deadwood in the fixed capital park, the average levels of depreciation rates have been raised and increased emphasis is being placed upon modernization of machinery, equipment and production processes, and less stress is given to construction of new plants. In all of the countries there was a period of rapid growth by extensive methods, relying on transfers of less than fully employed workers in agriculture into non-agricultural sectors, especially industry, and on higher rates of participation of women in employment. Such reserves for growth are dwindling; future growth will be increasingly dependent upon growth of labor productivity. Recognition of this prospect lies behind the eagerness of Eastern Europe to import the latest technology embodied in new capital equipment and production processes of Western countries.

## V. PROSPECTS AND PROBLEMS

Some indications as to how the countries of Eastern Europe and the U.S.S.R. envision resource allocation and economic growth in the 1976-1980 period as compared to their plans and performance in the 1971-1975 period are presented in Table 25. With the sole exception of Bulgaria, all of the countries are planning for slower growth of national income produced than was realized in their recently completed five-year plans. The less developed countries have set the higher goals for national income growth in their current five-year plans (in percentages): Romania—11; Bulgaria—8.2 to 8.7; Poland—7.0 to 7.3; Hungary—5.4 to 5.7; East Germany—4.9 to 5.4; and Czechoslovakia—4.9 to 5.2.

TABLE 25.—RATES OF GROWTH OF NET MATERIAL PRODUCT PRODUCED,<sup>1</sup> CONSUMPTION, INVESTMENT, AND RETAIL SALES, 1971-75 PLANNED, AND ACTUAL AND 1976-80 PLANNED

[Average annual rates; percent]

	1971-75		1976-80 planned
	Actual	Planned	
<b>Bulgaria:</b>			
NMP produced.....	7.9	7.7-8.5	8.2-8.7
Total real consumption.....	7.2	8.4-9.4	-----
Total real fixed investment, gross.....	<sup>2</sup> 6.8	<sup>2</sup> 6.7	7.1
Retail sales (real).....	7.8	6.8	7.0-9.6
<b>Czechoslovakia:</b>			
NMP produced.....	5.7	5.1	4.9-5.2
Total real consumption.....	<sup>4</sup> 5.3	4.9	-----
Total real fixed investment, gross.....	8.1	6.2-6.5	6.3-6.6
Retail sales (real).....	5.4	5.1-5.4	4.2-4.6
<b>East Germany:</b>			
NMP produced.....	5.4	4.9	4.9-5.4
Total real consumption.....	<sup>2</sup> 5.6	4.2	3.9-4.2
Total real fixed investment, gross.....	4.2	<sup>2</sup> 5.2	5.2-5.5
Retail sales (nominal).....	5.1	<sup>2</sup> 4.1	<sup>2</sup> 3.7-4.1
<b>Hungary:</b>			
NMP produced.....	6.2	5.5-6.0	5.4-5.7
Total real consumption.....	5.1	5.0	<sup>4</sup> 3.6-4.3
Total real fixed investment, gross.....	6.8	8.1-9.4	<sup>4</sup> 4.6-4.7
Retail sales (real).....	6.2	6.0-6.4	5.1-5.4
<b>Poland:</b>			
NMP produced.....	9.8	7.0	7.0-7.3
Total real consumption.....	9.2	6.9	-----
Total fixed real investment, gross.....	18.3	8.3	6.5-7.0
Retail sales (nominal) <sup>7</sup> .....	12.5	7.2	7.3-7.7
<b>Romania:</b>			
NMP produced.....	11.3	11-12	11.0
Total real consumption.....	-----	-----	-----
Total real fixed investment, gross.....	12.8	<sup>2</sup> 10.4	12.9
Retail sales (real) <sup>8</sup> .....	8.2	7.8	7.0-7.7
<b>U.S.S.R.:</b>			
NMP produced.....	5.5	6.8	4.4-5.1
Total real consumption.....	<sup>2</sup> 5.6	-----	-----
Total real fixed investment, gross.....	6.9	<sup>2</sup> 7.2	4.4-4.7
Retail sales (nominal) <sup>8</sup> .....	6.3	<sup>2</sup> 7.2	4.9-5.2

<sup>1</sup> National income produced, except for the U.S.S.R., where for the planned rates the reference is to national income (NMP) distributed.

<sup>2</sup> 1971-74.

<sup>3</sup> Change over preceding 5-year period, expressed as an average annual rate.

<sup>4</sup> Estimated from components.

<sup>5</sup> Growth rate of 5-year average.

<sup>6</sup> Socialist sector only.

<sup>7</sup> Goods only.

<sup>8</sup> Real.

Source: United Nations, supplement to "World Economic Survey, 1975," (1976).

The goals set for total real consumption and real gross fixed investment may suggest the priorities for national income distribution, but

comparisons drawn from the table cannot be precise for two reasons: (1) the table does not show national income distributed, which differs from national income produced by the import or export surplus and losses of national income produced; and (2) the table entry "total real fixed investment, gross" differs from "accumulation" or "net investment", which is usually shown as a component of NMP national income.

Total real gross fixed investment is planned to grow faster than national income produced in Czechoslovakia, East Germany and Romania, and slower in the other countries. Real consumption goals are shown in Table 25 only for East Germany and Hungary, where their planned growth is less than the planned growth of national income produced. The Hungarian planned growth rates for both total real consumption and total real gross fixed investment are lower than the rate for national income produced.

Rates of growth of total retail sales in real terms are shown in Table 25 for Bulgaria, Czechoslovakia, Hungary and Romania. Insofar as this indicator may serve as a substitute for total real consumption, it suggests that the latter will grow less than the national income produced; however, retail sales may grow at the expense of farm consumption in kind, and such sales may grow also by substitution of ready made goods for work done by housewives in food preparation, sewing, etc. The difference in planned rates of growth between real gross fixed investment and real consumption (or real retail sales) is greatest in Romania (12.9 percent versus 7.0 to 7.7 percent).

A comparison of actual rates of growth of real gross fixed investment in 1971-1975 with plans for 1976-1980 show expectations of slightly faster growth for Bulgaria, somewhat faster growth for East Germany, essentially no change in rate for Romania, a significant decline for Czechoslovakia and Hungary, and a very sharp decline for Poland (from 18.3 percent annual rate in 1971-1975 to a planned rate of 6.5 to 7.0 in 1976-1980). Poland had been benefiting from foreign loans in the past five-year plan and evidently is planning to live more within her own means in the current five-year plan. This is clear also in the planned deceleration of (nominal) retail sales, from 12.5 percent realized in 1971-1975 to 7.3 to 7.7 percent planned for 1976-1980.

A review of the performance of the economies of Eastern Europe in the 1965-1970 and 1970-1975 periods (Tables 18 and 20), taken in conjunction with their plans for 1976-1980 (Table 15) shows a generally declining trend for overall GNP (1965-1970 vs 1970-1975) and for overall NMP national income produced. Bulgaria displays a small decline in the juxtaposition of average annual rates of growth for the two past periods in both the GNP and NMP national income, but plans to recover to about the NMP rates of 1965-1970 in the 1976-1980 plan. East Germany shows a generally sustained rate of growth achieved in 1965-1975 and planned for 1976-1980. Czechoslovakia and Hungary show a pattern of moderate decline over the 1965-1970 and 1970-1975 periods that is projected for the 1976-1980 plan in their NMP measures. The pattern of decline in GNP rates from 1965-1970 to 1970-1975 was also evident for Czechoslovakia, whereas Hungary showed only a slight change in rate (an increase) in the more recent period. By both the GNP and NMP measures Poland showed a sharp rise in tempo of growth from 1965-1970 to 1970-1975, but the

NMP planned average annual rate for national income in 1976-1980 calls for a sharp decline (in percentages, 1965-1970=6.0, 1970-1975=10.0, 1976-1980 plan=7.0 to 7.3). Romania increased its annual average growth rates from 1965-1970 to 1970-1975 steeply (GNP: 4.5 to 6.1; NMP: 7.6 to 11.2), and the NMP target for 1976-1980 calls for a continuation of the rate achieved in the 1970-1975 period. The high achieved and planned rates of Romania, Bulgaria, and Poland reflect their relatively lower level of development as compared to East Germany, Czechoslovakia, and Hungary.

Poland is something of a special case in the 1970-1975 period, when, following the fall of Gomulka, the policy makers under Gierek's leadership sought to mollify workers' resentment against steep increases in meat prices by keeping consumer prices relatively low and allowing real incomes to increase. Such a policy was made possible by foreign loans to finance both the growth of investment and consumption. The attempt to raise meat prices sharply in June 1976 again provoked workers' protests and the Polish government again had to modify its announced price policy.

The Polish experience no doubt has made an impression throughout Eastern Europe and the USSR. The Communist parties and their governments evidently feel that it is not enough that they proclaim to govern as representatives of the workers and peasants. They now have to reckon with rising expectations of the population. Stalinist duress, although modified after his death, has continued to be reflected by continued strong emphasis on high rates of investment vis-a-vis consumption, but this preference has been tempered by some recognition of the need to provide more substantial incentives in the form of consumer goods for the population.

Preliminary reports for 1976 growth on NMP national income produced (see Table 20) show most countries performing at substantially lesser rates than the average planned for 1976-1980 (Table 25). Poland reported a 1976 increase of 7.5 percent (vs 7.0-7.3 planned for 1976-1980), and Romania reports correspondingly 10.5 percent for 1976 (vs 11 percent planned for 1976-1980). The remaining four countries reported 1976 results within a range of about 1 to 2.5 percentage points below their average planned rates for the 1976-1980 period. Much of the shortfall in 1976 can be attributed to a poor year in agriculture, except in Romania (which experienced a very favorable increase of 17.2 percent in gross agricultural production as against a planned 1976 increase in the range of 15 to 27 percent) and in Bulgaria (which realized a 3.1 percent increase compared to a goal of 5 percent for 1976).<sup>21</sup> For the six countries of Eastern Europe as a whole gross agricultural production in 1976 increased by about 1 percent as against close to 6 percent planned.

Assuming more or less normal variation in weather over the 1976-1980 period, and barring major external complications, the 1976-1980 national economic plans for Eastern Europe appear achievable. The generally lower growth planned for this period seems to take into account the need to rely more heavily on growth of labor productivity and less on additions to the non-agricultural labor force than in the past.

<sup>21</sup> See the paper in this Compendium by Gregor Lazarek, "Comparative Growth and Levels of Agricultural Output and Productivity in Eastern Europe, 1965-1976," Table 24.

Future growth in Eastern Europe will depend strongly on demographic factors, application of advanced technology, attitudes of workers and managers toward production, the related state priorities as to incentives via real wage increases and investment alternatives, and changes in the complex system of economic organization and planning that affect personal motivations for increased work effort and innovative approaches to production. The degree of success in financing imports of advanced production technologies and the up-to-date machinery and equipment to implement them will be an important factor in future performance.

In assaying probable future economic performance in Eastern Europe, account has to be taken of current problems: growing labor scarcities, unsatisfactory rates of growth of labor productivity despite very high rates of investment, conflicting elements in the systems of planning, management, and measurement of performance, workers' apathy induced by policies of full employment that amount to feather bedding, or disguised unemployment, lack of adequate incentives to reward above average effort—a persistent problem in the socialized, centrally directed and overly regulated economies, rising consumer expectations based on increasing knowledge of the levels of living and consumer welfare in Western economies, inefficiency in production and disappointing technological progress resulting in considerable measure from insulation of domestic markets against foreign competition by state foreign trade monopolies and foreign trade price equalization measures, limited possibilities for wider participation in world trade because of dependence on Soviet sources of raw materials (oil, natural gas, iron ore, etc.), rising costs of imported raw materials, pressures to match the short work weeks achieved in Western industrialized countries, increased expenditures to protect the natural environment against pollution, dissatisfaction with the quality of production, continued housing scarcities, inadequate provision of consumer services—the list could be continued.

These problems are by no means peculiar to Eastern Europe, but they are exacerbated there by the expectations of the population encouraged by the claims of the socialist planners to catch up with and surpass the Western industrialized countries by measures of human welfare.

If one should judge economic progress by the changes in structure of national product and employment (expressed as shares of sectors of production in the corresponding national totals), then Eastern Europe has indeed taken great strides since the end of World War II. But growing shares of industry, construction, and services offset by declining shares of agriculture are approaching practical limits. Transfer of labor from agriculture to non-agricultural sectors still has further possibilities, more substantial in Poland, Romania, and Bulgaria than in the remaining countries, but compensation must be forthcoming in terms of increased provision of fixed capital and current inputs (fertilizers, insecticides, imported protein-rich feedstuffs, improved varieties of plant and animal breeding stock, improved agricultural technology, etc.) and in terms of incentives to agricultural workers (high wages or other forms of personal incomes).

Non-agricultural employment increases achieved by higher rates of participation, particularly of females, in the work force probably

have reached their practical limits in most of the countries. Some tendency toward declines may in fact be at work as the increase in levels of real incomes make it possible for women to give more time to child rearing and to spend more time in other home making activities.

Because of the inefficient use of labor in socialized enterprises that is fostered by the current system of centralized planning and direction of production, by the criteria for measuring performance of enterprise managements, by the overly egalitarian, redistributionist policies in respect to wages and such modest accumulations of wealth as have occurred in some countries (strictures against two cars per family, more expensive dwellings, etc., enforced by decrees of confiscatory taxation, in Poland for example), and by other negative motivational factors, there has been created a "reserve" of labor that can be activated by suitable government policies. To undo the disguised underemployment in the socialized economies would require measures that in essence, if not in form, would amount to substantial reprivatization of economic activity. With decentralization of management and direction of economic activity, with greater scope for local initiatives motivated by incentives for gain from extra effort on the job, fewer workers would be required for a given quantity of output. The workers that would have to be added under the present inefficient regimen of labor utilization in order to meet higher output goals in a given factory could be substantially reduced in number and the saving of labor could be made available to be used where genuine shortages occur.

In order to enhance labor productivity, the countries of Eastern Europe are striving to add new, technologically advanced machinery and equipment and production processes in industry and other production sectors. Depreciation rates had been set too low; nevertheless, the value of fixed capital whose "life" had expired continued to increase. In Hungary, in 1971, such "expired" fixed capital had risen to 51 percent of the total in industry and 22 percent in transportation and communications.<sup>22</sup> New, higher rates of depreciation have been set in Hungary, East Germany and other countries.<sup>23</sup> Investment priorities are being directed toward completion of unfinished projects and modernization of present facilities. Imports from Western countries of up-to-date technology and the equipment to implement it rank high in priority, but availability of foreign credits or payment by exports to the West set limits to such imports.

The present ferment of economic reforms and counter reforms continues in Eastern Europe. Their aim is to increase efficiency of production by appealing to the economic self interest of enterprises, managers, and employees, but this aim constantly confronts a cardinal principle: that the hegemony of the Communist parties in all areas of social, political, and economic life remains unchallenged. A generation of managers, scientists, technocrats, and workers that would have extensive freedom to follow their own views directed toward economic efficiency and innovation would be inclined eventually to favor a pluralistic approach to political issues, and could pose a challenge to the self perpetuating Communist party elites that regard government policies

<sup>22</sup> G. Gertsovich and B. Mihailov, "The Efficiency of Social Production in European CEMA Countries," *Voprosy ekonomiki*, No. 11, 1973, pp. 108-119.

<sup>23</sup> Polish rates scheduled for introduction in 1974 were higher by 43 percent in machinery and equipment and 34 percent in structures; see Z. Fedak, in *Finanse*, No. 6, 1973, pp. 1-12.

as their special prerogatives. That is why reforms have been piecemeal, on-again and off-again. Appeals, exhortations, and slogans purveyed by the government monopoly of the press and telecommunications and disseminated by party cadres strive to educate the population to acceptance of the Party decisions, but they are not always successful. The abrupt price changes in Poland under Gomulka and Gierek that had to be rescinded illustrate the gap between those who claim to govern in the name of the workers and the workers themselves. Although such confrontations have not been so evident in other East European countries, no doubt the possibilities have been considered by their ruling elites. Such consideration would tend to modify the ambitions of the Party leaders.

There are lessons to be learned by non-Communist countries from the experience of the East European countries. Economic progress can occur, indeed may be much more efficient, without socialization, centralization, and organized duress imposed upon the population. A transition to a state of affairs characterized by the countries of Eastern Europe can occur by foreign intervention, domestic coups, or continually increasing central government intervention in economic affairs. Government actions aimed at curing transient maladjustments tend to become institutionalized and self-perpetuating. Economic regulations and controls metastasize and eventually create an immense burden that is counterproductive as regards the initial humane impulse that started the process. Once instituted, a bureaucracy seeks to perpetuate itself, to grow, to defy efforts to eliminate it. Growth of central government bureaucracy requires a concomitant growth of a secondary bureaucracy serving business enterprises, local governments, and consumers in order to meet the growing demands for reports, counter reports, and adjudication of conflicts. The burden imposed upon society in terms of the direct support of the two bureaucracies is very substantial; in terms of its impact on efficiency, it may prove even greater. Decisions are delayed; efforts at optimization dependent upon knowledge of the situation on the lower levels are impaired.

The socio-economic transformations in Eastern Europe were brought about by Soviet intervention and by resort to "class war", pitting the have-nots against the haves, including middle and lower middle class farmers, businessmen, handicraftsmen, and professional people in the sector of services. A new class of the Party elite and government bureaucracy took over policy making in all aspects of social-political-economic life, and by detailed direction and control of activities this new class implements its policies. In the process, the scope and incentive for above average performance at the production level have been very substantially limited.

This limitation lies at the root of the problem of economic efficiency, productivity, and innovation in Eastern Europe. Very marked changes have occurred in the composition of national product by sector of production and by the corresponding sectoral distribution of employment. These changes, at least in percentage composition, put Eastern Europe relatively close to Western Europe. But these structural changes have not overcome the big gap in the levels of per capita productivity. After about half a century of socialized economy

in the USSR and close to thirty years in Eastern Europe, despite relatively great percentages of national product allocated to investment, Eastern Europe and the USSR still are seriously lagging in per capita output (see Table 10). Analysis of the causes of this lag necessarily would be complex, taking account of historical events, national characteristics, availability of natural resources, and institutional arrangements governing economic and social activity. But personal motivation—the impulse to work harder and more innovatively—would appear to be one of the most important factors in accounting for relative productivities. This factor is recognized throughout Eastern Europe; the problem is how to improve productivity given the present institutional arrangements.

Such is the situation that confronts the countries of Eastern Europe today. They are trying to find their way out of the mediocrity of performance that has been induced by socialization and centralization of planning, direction, and control over economic activity and by overly egalitarian and redistributionist policies regarding personal incomes and saving.

Other countries should take stock of where they are headed. Inflation is a species of class war; it destroys the purchasing power of savings made possible by productive effort and thrift. It propels the modest "haves" toward the position of "have-nots", reducing many who considered themselves adequately protected for retirement to becoming supplicants for government support. Moreover, it suggests to those aspiring to climb up the economic ladder that their efforts through harder work and thrift will prove in vain. The consequence for personal motivation should be clear: Why strive to make more than an average effort; perhaps a below average effort in the circumstances would be psychically more rewarding. Why save?

It is through the saving aspect that unwanted socialization and its likely consequences for personal motivation may appear. If private saving is inadequate to maintain and expand production facilities and finance innovation, then the burden must be borne via taxation by governments. The most likely corollary is that governments will direct and control what they have financed. Couple this with income leveling policies, and the outcome may not be unlike the situation that Eastern Europe is wrestling with today.

## VI. SUMMARY AND CONCLUSIONS

The statistical record of comparative economic structure and growth in Eastern Europe is given in the tables of this paper. Some summary conclusions are presented below.

1. The rate of growth of population in Eastern Europe as a whole has declined from about 10 percent over the 1955–1965 decade<sup>24</sup> to about 6 percent from 1965 to 1975 (Table 1). The average annual rates of increase of population in Eastern Europe in the 1970–1974 period have been at about the same level as in Western Europe. Labor shortages are evident in East Germany (which has the continued distinction of negative rates of population growth), Czechoslovakia,

<sup>24</sup> Based on national statistical yearbooks; see my tabulation in Thad P. Alton, "Economic Growth and Resource Allocation in Eastern Europe," in U.S. Congress, Joint Economic Committee, "Reorientation and Commercial Relations of the Economies of Eastern Europe," Washington, 1974, p. 255.

and Hungary. Annual rates of increase in total employment, 1970–1975, range from a low of 0.4 percent (Hungary and East Germany) to 2.5 percent (Poland). (See Table 22.)

2. The structure of production over the 1965–1975 period reflects the continued growth of the share of industry in GNP. The shares for industry have leveled off in Czechoslovakia and East Germany at about 42 percent, and in Hungary at about 34 percent. In the other countries the share of industry has continued to grow over this period, reaching in 1975 a range of from 36 to 39 percent of GNP. The shares of agriculture and forestry combined have fallen over the 1965–1975 period, and by 1975 they came within a range of 13.5 percent (East Germany) and 29.4 percent (Romania). (See Table 2.) Comparisons with Western Europe show the shares of industry in GNP (see Table 3) roughly comparable to those in Eastern Europe; the shares of agriculture in Western Europe were very considerably lower than those in Eastern Europe. Because of differences in coverage, the net material product (NMP) national income excluding various services included in GNP, and differences in valuation, the percentages in Tables 2 and 4 are not comparable. The sectoral shares in the material net product (NMP) national income produced (see official data in Table 4) present diverse compositions, depending on the bases of valuation. (E.g. in 1965, industry in Hungary accounted for 67 percent of the total in “comparable” prices, but only 42 percent in 1968 prices; in 1975, the industrial share in the Hungarian total was 45 percent in 1968 prices and 60 percent in current prices). The general impression of the leveling off of the share of industry in GNP given in Table 2 for Czechoslovakia and East Germany is also reflected in Table 4 in shares of NMP national income. In general, the share of industry in the NMP total is very considerably exaggerated by the inclusion of turnover taxes in the NMP of industry.

3. Domestic gross investment as a share of total GDP “domestically distributed” (including the import surplus) in 1974 in current prices in Poland was about 39 percent. (If the import surplus is considered both as a reduction of the GDP distributed and as disinvestment, then the share for gross investment falls to 34 percent.) Comparable shares for Hungary in 1974 as shown by official Hungarian GDP tables were about 35 percent based on the total product domestically distributed (and about 32 percent if imports are subtracted as for Poland above). The shares of gross investment for other countries in Eastern Europe were not calculated at this time, but they probably would fall in or close to the range shown by Poland and Hungary. Official NMP statistics of the composition of national income domestically distributed (Table 5) vary considerably for a given country depending on the prices used for valuation. For example, in 1966 in Czechoslovakia, the share of net investment was 16.5 percent in current prices and 20.6 percent in 1967 prices (Table 5); in 1975 in current prices the share was 28.9 percent. In 1975, the net investment share in Hungarian NMP national income distributed was 24.8 percent in “comparable prices” and 28.9 percent in current prices. In Poland, in 1975 net investment accounted for 37.8 percent of NMP national income distributed in constant 1971 prices and 35.1 percent in current prices. Rates for 1975 in Bulgaria and Romania were around 33 percent, but the price bases were not comparable.

Since the NMP concept excludes depreciation (which would raise the net investment to gross) and "non-productive" services, the percentages shown in Table 5 are not comparable to shares in GNP or GDP. On balance, however, adjustment to enlarge the NMP concept to GDP, as is available for Hungary (see above) would raise the percentage figure for investment considered as gross.

4. In 1974 the economically active population in the East European countries and the USSR comprised roughly one-half of the total population; in Western Europe and the United States the range was 35 to 46 percent (Table 6). The shares of non-material services in Eastern Europe and the USSR have risen from a range of 9 to 15 percent of the total economically active population in 1960 to a range of 15 to 22 percent in 1974. For Western countries, the corresponding 1974 range was from 18 to 34 percent. Shares of industry in the total economically active population in Eastern Europe have risen substantially from 1960 to 1974 and by 1974 were getting close to those in Western Europe, but the shares of agriculture in Eastern Europe, though declining sharply from 1960 to 1974, were in 1974 considerably above those for Western Europe. Table 7 provides details on the structure and growth of total employment, 1965-1975, by sectors of production. The shares for employment in industry increased slightly over the 1965-1975 period in Czechoslovakia, East Germany, Hungary and Poland, but increased sharply in Bulgaria and especially in Romania (from 19 to 30 percent). Agriculture's share in the growing totals declined relatively and in absolute numbers as well. Table 8 provides details on the composition and trends in employment in industry by branches (machinery, chemicals, etc.) over the 1960-1975 period. Machinery, the largest sector in 1960, had increased its share further by 1975. By 1975, in terms of the share of machinery in total employment in industry, the countries of Eastern Europe were getting to be more similar than in 1960.

5. Table 9, showing the structure and indexes of growth of fixed capital in Eastern Europe reflects the growing importance of industry. Fixed capital grew rapidly in all countries, but some reservation is warranted concerning the data for Bulgaria and Romania, where there is reason to expect some inflation of the rate of growth (data are evidently in current prices for Bulgaria and perhaps for part of the time period covered for Romania—see Notes to Table 9 in the Appendix).

6. The 1975 GNPs per capita in 1975 U.S. dollars in Eastern Europe are estimated in Table 10 roughly within a range of about \$2,200 (Bulgaria) to \$3,700 (Czechoslovakia and East Germany), and in non-CEMA countries within a range of \$2,500 (Greece) to \$6,800 (West Germany). The comparable figure for the United States was \$7,100. There is considerable room for refinement with a view toward comparability in such dollar estimates. Though rough, these figures indicate relatively low productivity in Eastern Europe, even though the national composition of total employment there is becoming close to that in Western countries.

7. Tables 11, 12, and 13 present our indexes of total real GNP, real GNP per capita, and GNP by sector of production, 1965-1975. Official measures of NMP national income produced, total and per capita, are shown in Tables 14 and 15. The GNP and NMP indexes

are not comparable with respect to coverage and bases of valuation, and one should therefore expect differences in the rates of growth they show. Indexes of real GNP per capita 1965-1976, Table 12, show growth within a range of 34 percent (Hungary) to 66 percent (Romania). The NMP measures per capita (Table 15) range from a growth of 76 percent (East Germany) to 142 percent (Romania). Notes to the tables should identify the price bases and linkages of segments of the NMP indexes and the methodology and weights of our GNP measures. Table 13 shows our GNP indexes overall and by sector of production, 1965-1976. Construction, trade, transport and communications, and industry are the faster growing sectors, but their rank varies from country to country. Agriculture grows less rapidly than overall GNP in all the countries of Eastern Europe. Table 14 details the growth of NMP, 1965-1976, overall and by sectors. The general impression as to which sectors are the faster growing ones is about the same as that conveyed by Table 13, but of course the rates differ from those in Table 13 because of different bases of valuation and methodology. The Appendix, Notes to Tables, provides background on this matter.

8. Indexes, 1965-1975, of NMP national income domestically distributed (Table 16) show net capital formation (accumulation) growing faster than the remaining major component, consumption. The sub-component, personal consumption, grows less rapidly than the "other" (collective) consumption.

9. Average annual rates of growth, 1965-1976, per capita of GNP (Eastern Europe) and GDP (other countries) are shown in Table 17. The overall impression, taken as a simple unweighted arithmetic average for the 1965-1970 period, is that the non-CEMA countries grew much more rapidly (5.1 percent) than the East European countries (3.2 percent). The United States and Great Britain grew more slowly than the other indicated countries. The 1970-1975 period was more favorable for Eastern Europe vis-a-vis the other group of countries. The less developed countries in both groups show faster rates of growth. (Japan was the significant exception.)

10. Average annual rates of growth of GNP by sectors of production 1965-1976, are shown in Table 18. These rates confirm the overall impression given in Table 13 (see item 7, above). Trade, construction, transportation and communications, and industry, with varying rank among countries and subperiods, are the faster growing sectors. Agriculture grows more slowly than overall GNP. Housing and government services also grow at below average rates.

Tables 19 and 20 show average annual rates of growth of NMP national income produced 1965-1976, per capita, overall, and by sectors of origin of product at constant prices. The rates in Tables 19 and 20 are in general higher than for correspondingly named sectors of GNP in Tables 17 and 18, but this should be expected, given the differences in coverage, bases of valuation, and methodology of calculation of the underlying indexes.

The obviously weird rate of growth for the trade sector in Romania (a negative annual average rate of growth of 21 percent over 1965-1970) probably is a manifestation of price equalization activities on foreign and/or domestic trade account, and it by no means reflects the actual, customary services rendered to the population as gauged

by trade turnover. However, it appears that the indicated negative growth of the official trade NMP index is incorporated into the overall NMP index of national income produced and lowers the rate of growth of overall net material product. Other countries of Eastern Europe at various, mostly earlier periods (e.g. Hungary) would seem to have had a similar experience. The unfavorable impression created by such a measure has been dealt with in Romania by not publishing the detailed index after 1970; in other countries the phenomenon may have been corrected by changes in methodology for dealing with price equalization differences on foreign trade. It would not appear, however, that such changes would be carried back uniformly retrospectively, but that the adjusted measure simply would be linked to the previously published NMP measure.

11. The annually detailed indexes underlying Table 16 are expressed as average annual rates of growth of NMP national income domestically distributed, 1965-1975, in Table 21. The NMP domestically distributed differs from the NMP national income produced by the extent of the import or export surplus and losses of product. For the overall 1965-1975 period, net capital formation in each of the five East European countries shown in the table grows faster than total consumption. Personal consumption, a component of total consumption, grows more slowly than the total; this implies that collective consumption grows more rapidly than total consumption. The general impression by subperiods, 1965-1970 and 1970-1975, is roughly the same as for the overall 1965-1975 period, but with two exceptions: consumption in East Germany and Hungary in 1970-1975 grew faster than net capital formation. Romania does not publish annual indexes of national income distributed.

12. Average annual rates of growth, 1965-1975, of employment and labor productivity with respect to GNP are shown in Tables 22 and 23. Poland ranks first in rates of growth of employment, and East Germany and Romania rank last. Variation over the subperiods 1965-1970 and 1970-1975 indicated a leveling off or reduced rates in most countries. Bulgaria is an exception here. An examination of participation rates (number of persons per 100 of relevant total population) shows such rates rising in most countries of Eastern Europe and the USSR from 1960 to 1974, to about 50. Participation rates for women have increased substantially in Eastern Europe. Participation rates in countries of Western Europe have declined from 1960 to 1974, and are substantially lower than in Eastern Europe (a range in 1974 of 35.4 in Italy to 46.3 in Great Britain). U.S. participation rates have risen from 39.0 to 44.1 in this period.

Labor productivity with respect to GNP in 1970-1975 in Eastern Europe has grown on the whole somewhat faster than in 1965-1970; Bulgaria is an exception here, showing a small decline. Labor productivity rates in industry declined in 1970-1975 as compared with 1965-1970 in all countries except Hungary and Poland (see Table 23).

13. Table 24 summarizes indexes of NMP national income produced, employment, fixed capital, labor productivity, capital productivity, and capital per unit of labor, 1965-1975, for the material product sphere as a whole and for major sectors of material production. A comparison of the increases of labor productivity 1965-1970 versus 1970-1975 presents a mixed picture by countries and sectors of pro-

duction: The table presents a general impression of the trend in overall labor productivity (i.e., with respect to NMP national income) as declining in Bulgaria and Czechoslovakia, leveling off in East Germany and Hungary, and rising in Poland and Romania.

14. A general impression of the prospects for 1976–1980 in comparison with the actual and planned performance in 1971–1975 is presented in Table 25. With the sole exception of Bulgaria, all the countries of Eastern Europe are planning for slower growth in their current five-year plans. The less developed countries have set higher goals than the more developed ones. Such partial information as the table supplies indicates that real gross fixed investment is expected to grow faster than real NMP national income produced. The planned rates of growth, 1976–1980, for total retail sales in real terms suggest a slower growth of total real consumption than of national income produced.

15. A review of economic performance in the 1965–1970 and 1970–1975 periods (Tables 18 and 20) taken in conjunction with plans for growth of overall NMP national income produced in 1976–1980, shows, with few exceptions, a generally declining trend from 1965–1970 to 1970–1975 and expectations of a return to the 1965–1970 rates in the current, 1976–1980, plans. Poland is something of a special case in the 1970–1975 period when, following the fall of Gomulka, the party and the government under Gierek's leadership reversed the Gomulka policy of price increases for meat, kept prices relatively stable, and achieved high rates of growth of overall real NMP, real consumption, and real gross fixed investment. This was made possible by import surpluses financed by foreign credits. Poland's plan for 1976–1980 calls for lower rates of growth, evidently in an attempt to live within her own means.

16. Assuming average weather conditions, and barring major external complications, the East European plans for 1976–1980 appear achievable. The planned growth rates seem to place less reliance on expansion of employment and more reliance on growth of labor productivity.

17. Future growth in Eastern Europe will depend strongly on demographic factors, priorities as to resource allocation to investment and consumption, and incentives to managers and workers to work harder and to introduce up-to-date technology by absorption of Western technology and by domestic innovations. Foreign credits may become less easily available than in the recent past and debt service is becoming a heavy burden.

18. Eastern Europe faces a broad array of economic difficulties: growing labor scarcities, unsatisfactory rates of growth of labor productivity despite very high rates of investment in plant and equipment, conflicting elements in the systems of economic management and control, workers' apathy induced by policies of full employment that result in disguised unemployment, rising consumer expectations, disappointing technological progress, rising costs of imported oil and other raw materials, continued housing scarcities, inadequate provision of consumer services—the list could be extended. These problems are not peculiar to Eastern Europe; other countries face such problems

as well. One of the major problems is personal motivation to work harder and to generate technological progress. It appears to be a consequence of the socio-economic-political system that tends to suppress personal motivation and opportunities for improving efficiency at the enterprise and local levels for fear of eventual confrontations by the new generation of technocrats and workers against the hegemony of the Communist Party elites in the sphere of setting national policy and controlling practically all aspects of social, economic, and political activity.

19. Although the countries of Eastern Europe are approaching a structure of economic activity close to that of Western Europe, productivity per capita in Eastern Europe seriously lags behind that of Western Europe (see Table 10). After about thirty years of socialist industrialization with exceptionally high rates of investment, the gap in productivity remains very large.

20. There are lessons to be learned by non-Communist countries from the East European and Soviet experience. Economic progress and rising human welfare do not require the duress experienced by the populations of Eastern Europe and the USSR. Indeed, such progress may be sounder and more efficient where personal motivation and local initiatives are not curtailed by overly detailed central direction and control. The major caution to be noted here is that overt class war supported by foreign intervention is not the only way to get into the difficulties that have been experienced by the populations of Eastern Europe and the USSR. Inflation is a species of class war; it destroys the purchasing power of savings made possible by productive effort and personal thrift. It propels the modest "haves" toward the position of "have-nots", reducing many who regarded themselves adequately protected for retirement by their savings to the near prospect of becoming supplicants for government support. Inflation suggests to those aspiring to climb the economic ladder to a middle class position that their efforts may prove futile. There may be greater combined proximate monetary and psychic rewards by making a less than average effort, but over the longer term, there will be less product overall to be shared. And, of course, inflation undermines incentives to save.

It is through this saving aspect that unwanted socialization and bureaucratic intervention in multiple aspects of life can appear. If private saving and investment should be replaced by government expenditure (financed in part by inflation, a form of taxation), then the government will no doubt seek to control the activities it finances. If this is coupled with strongly income leveling and redistribution policies, the adverse consequences for personal motivation, productivity, and personal consumption would not be unlike those of Eastern Europe.

#### APPENDIX

##### NOTES TO TABLES 4, 5, 14, 15, 16, 19, 20, 21, AND 24

Net material product figures in this report reflect East European "national income" measures that exclude government and a number of other services. Calculated as the gross value of output of the material sectors (at sales prices including turnover taxes) less material costs (including depreciation), net material product is not quite strictly a value added measure because small amounts of non-material costs, reflecting purchases by the material sectors of services, are not deducted and remain within the value of "national income produced."

The definition of what constitutes the material sectors for purposes of measuring net material product is not standard for all the countries under review, and for two countries it has not remained the same throughout the period covered in this report. Specifically, in the measures for East Germany, Hungary, and Poland, transportation and communications services are treated as material product in their entirety, whereas in Czechoslovakia only freight transportation and a portion of communications defined as "productive" enter into the material product. For Bulgaria and Romania, the NMP measures for the early years reflect definitions similar to that of Czechoslovakia, but as of 1970 for Bulgaria and 1971 for Romania, the definitions were broadened to encompass passenger transport, all of communications, and some other previously excluded services related to other sectors. The Bulgarian and Romanian indexes are chain linked at these years to provide continuity; retrospective data in the later coverage have not been published.

Constant price bases for the NMP measures also vary from country to country and are not in all cases the same throughout the period under review. Bulgarian indexes are based on prices of January 1, 1962 for the years 1965-1971 and linked to measures in January 1, 1971 prices for 1971-1976. Czechoslovak NMP data for 1965-1966 given in prices of April 4, 1960 are linked to data in prices of January 1, 1967 for 1966-1976. East German data are available in 1967 prices for the whole period, 1965-1976, Hungarian measures are based on 1968 prices throughout 1965-1976. Polish measures for 1965-1970 based on 1965 prices are linked to measures based on 1971 prices for 1970-1976. Romanian measures use 1955 prices for 1965-1966, linked to data in prices of 1963 for 1966-1976. Chain linking is the standard method for deriving continuous series.

NMP data by sector of origin, whether in constant or in current prices, include turnover taxes. It is the practice to include the turnover taxes in the NMP originating in the sector in which the taxes are collected. In all of the countries under review, the bulk of turnover taxes are collected at the point of sale of goods from industry, and the incidence of this tax in the NMP values for industry is higher than it is for other sectors.

Definitions of NMP used reflect the material product definition constraints applicable in the respective countries. NMP used may differ from NMP produced by the amount of foreign trade balances, losses, and other discrepancies; published data sometimes reflect reconciled accounts. Dividing lines between "personal" consumption and "other" consumption vary, and the reader would be well advised to consult the sources with care before undertaking international comparisons on this point. Constant price bases and linkages for the published indexes of NMP by use are believed to be the same as those described above for NMP produced, although this identity is not always explicitly stated in the sources.

#### NOTES TO TABLES 7, 8, 22, 23, and EMPLOYMENT DATA IN TABLE 24

Employment measures used in this report reflect annual averages except for data by major sector for East Germany, where the data refer to September 30 of the respective years.

The data cover civilian employment only. The official sources indicate that persons occupied full time in the armed forces and in political organizations are excluded. In other respects, however, the coverage is said to be comprehensive, including private activity in all sectors as well as collective farmers in agriculture.

Descriptions of employment accounting in the sources sometimes state that persons absent from work on leave with full pay are counted as employed. These data are thus not strict measures of labor inputs in terms of man-year equivalents. It should also be noted that leave provisions and the amount of time worked per man-year vary somewhat from country to country in Eastern Europe and have varied within given countries over the time period under review.

Where employment data are considered in the context of GNP measures in this report (Tables 8, 22, and 23), sectoral boundary lines are believed to match those of the GNP sectoral indexes, including, for example, all transportation and communications employees in these sectors for all countries. Where NMP measures are under consideration (as in Table 24), the division between material production and "nonproductive" services follows the definition underlying the official measures for the country in question. Thus for Czechoslovakia, employment in the material sectors excludes persons employed in passenger transportation and in the communications services officially deemed nonproductive. It should be noted that productive-nonproductive boundary lines in employment data have not been stable over the time period under review. In addition to changes related to

the broadening of the definition of material product in Bulgaria and Romania, there are occasional abrupt declines in the series for employment in "nonproductive" administration and scientific services. These seem to coincide with the transfer of personnel formerly affiliated with central ministries and institutes to affiliations administratively subordinate to production organizations, or from budgetary to *khozraschet* financing. Apparently, such transfers redefine the productivity of their employment.

The employment measures used in this report are based on absolute figures given directly in official statistical sources except for two countries. For Romania, absolute year-end figures were available for 1965 and 1970-1975; official indexes for 1964-1969 were used to obtain annual averages for 1965-1970. For Bulgaria, official annual averages in the desired employment coverage were available up to 1970. Our measures for the period after 1970 are estimates derived by assuming that the ratio of the growth of total employment to the growth of workers and employees (excluding collective farmers and private employment) would be the same over the 1971-1976 period as the average ratio indicated for 1965-1970. Total employment thus estimated was then broken down among sectors on the basis of official percentages on the structure of total employment given in Bulgarian yearbooks.

#### NOTES TO TABLE 9 AND FIXED CAPITAL DATA IN TABLE 24

Fixed capital data presented in this report reflect annual averages except as otherwise indicated in notes on Table 9. A possible exception is Czechoslovakia, for which the yearbook notes offer no statement as to the time reference of the data given.

All the figures used here refer to undepreciated values of fixed capital, variously termed "gross inventory value", "full purchase cost", etc. The sources suggest that it is generally the practice to include the value of surveying and other development and overhead costs, as well as direct costs of the assets.

Constant price data are not consistently available for all countries. The Bulgarian series at "full initial cost" are described as originating from a capital revaluation as of 1949, with subsequent additions "at the cost at which the fixed asset was put into operation and entered into accounting ledgers." This implies valuation at an accumulation of current prices of various years. The results of a capital revaluation in Bulgaria in 1974 have not yet become available. Romanian methodology for the period prior to 1970 is described in terms similar to the Bulgarian, although Romanian data for 1970 and later are cited as being in 1963 prices.

The coverage of the official fixed capital data for some countries has changed over the years. Bulgaria and Romania both appear to have added to the total coverage of capital in 1970 and 1971, respectively, when they expanded their definitions of material product to include more services; the sectoral boundary lines between "productive" and "nonproductive" fixed capital also, of course, changed at the time. The series shown in this report are from the most recent yearbooks except for Romanian 1965 and 1970 old classification data included for comparability of detail.

Where the data are considered in the GNP context in this report (Table 9), sectoral boundary lines have been adapted insofar as possible to match those of the GNP indexes. For Czechoslovakia, the "nonproductive" fixed capital in transportation and communications has been included in the sector as shown in Table 9. As noted on that table, all sectoral coverages are not strictly comparable: Data on capital in housing for Hungary and Romania include some other services; Bulgarian capital data for industry include forestry. Where the capital data are used in the NMP context (Table 24), the sectoral boundary lines conform to the official usage of the country in question. Thus the capital in Czechoslovak passenger transportation and communications defined there as "nonproductive" is accordingly excluded from capital in the material sectors.

#### NOTES TO TABLE 10

The GNP dollar estimates in Table 10 are based on Maurice Ernst's study (in U.S. Congress, Joint Economic Committee, "New Directions in the Soviet Economy," Washington, 1966, Part IV, Appendix A, pp. 911-912) as updated in the present paper. The estimates were obtained as follows: First, the GNP at current domestic prices in the various East European countries was converted to West German marks in 1955 by means of estimated purchasing power ratios

for components of GNP. Second, the values in West German marks so obtained were converted into United States dollars by means of estimated purchasing power parity rates for 1955 prepared by Milton Gilbert and Associates ("Comparative National Products and Price Levels," Paris, OEEC, 1958). Third, the 1955 United States dollar values were converted to 1975 dollars by the use of the United States implicit GNP price deflator. Finally, the East European GNP values for 1955 in United States 1975 dollars were carried forward to 1975 by our indexes of East European GNPs in constant prices, 1955-1975.

#### NOTES TO TABLE 13

The methodology and detailed documentation of the GNP measures in this report have been published in various Occasional Papers of the Research Project on National Income in East Central Europe (see bibliography). Summarized briefly:

Adjusted factor cost weights for each country were estimated as returns to labor (taken as payments to labor plus social security in each sector), plus returns to other factors, derived by distributing the remainder of total value added (at domestic market prices, for the economy as a whole) among sectors in proportion to the fixed and working capital in the respective sectors and the land in agriculture and by adding depreciation as officially accounted. A full description of sources and procedures will be found in OP-48, "Statistics on East European Economic Structure and Growth." Weights for Hungary in this report differ slightly from those in OP-48 because of the subsequent incorporation of more precise capital data in the estimates.

Sectoral indexes for major production sectors were derived from official physical output data, weighted for aggregation as appropriately as possible with domestic prices and value added by subsectors. For services except housing, the indexes are largely derived from employment. For housing, the basis is official measures of housing stock. For some countries, minor production sectors are also represented by employment, or by official value aggregates in constant prices. The indexes as they appear in this report reflect updating of those published earlier, with revisions in some instances in the light of later data and updated weight regimens. Changes since their most recent summary in OP-50, "Economic Growth in Eastern Europe, 1965-1975" (1976), will be documented in a forthcoming Occasional Paper covering 1965-1976.

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# DEFENSE EXPENDITURES IN EASTERN EUROPE, 1965-76\*

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## I. INTRODUCTION

The present study aims to indicate the magnitude, trends and structure of military expenditures of selected countries of Eastern Europe: Bulgaria, Czechoslovakia, East Germany, Hungary, Poland, and Romania. Valuations are shown in current domestic prices and in current dollars. GNP is also calculated in constant 1975 dollars. In order to place military expenditures in perspective, they are shown in the context of values of GNP in absolute and relative terms, as well as in terms of average annual rates of change (Chapters II and III).

In international comparisons of shares of GNP devoted to defense expenditures, the factor cost structure would be preferable to that given in effective market prices. Nevertheless, factor cost approximations conventionally calculated would still fall short of an equitable standard of comparison in those cases where conscription results in diverse proportions of opportunity cost being paid to conscripts in

\*The present contribution is a revision and updating of the authors' "Estimates of Military Expenditures in Eastern Europe," prepared for US ACDA, by the Research Project on National Income in East Central Europe, at L.W. International Financial Research, Inc., N.Y., N.Y. The authors are indebted to Frank Bandor and Alice Mayer for cooperation in the preparation of this paper.

the form of nominal cash pay plus subsistence. This follows from the conventional procedure of accepting the market price (actual) returns to labor as equal to the factor cost of labor.

Where the concern is to compare internationally the shares of GNP allocated to defense, it would appear that a modified concept of GNP and military expenditures should be employed; that is, both the GNP aggregate and the military component should reflect suitable upward revaluation to account for services of military personnel at opportunity cost. We did not attempt such adjustments in the present study. It seems clear, nonetheless, that the outcome of such comparisons between countries of Eastern Europe on the one hand and the United States on the other would be to raise the shares of the former in relation to the latter.

Another approach to international comparisons of defense expenditures is to express all the outlays in a common currency. To this end we present estimated dollar valuations of East European military expenditures. In order to facilitate such conversions to dollars, we allocated the total military expenditures to personnel costs and other outlays, and used distinct conversion rates for the components (Chapter IV).

The results presented here are necessarily approximations. The procedures we employed could certainly be refined, particularly in getting better breakdowns of total expenditures, devising better conversion rates to apply to components of the total, making corrections for price distortions, and estimating the military expenditures outside and above the officially published defense budgets in each of the six East European countries reviewed in this study (Chapter V).

## II. GNP, DEFENSE EXPENDITURES, AND IMPLICIT CONVERSION RATES OF NATIONAL CURRENCIES TO DOLLARS

In this chapter we present for Eastern Europe as a whole and for each country, for the period 1965 to 1976, annual estimates of the total gross national product in current and constant dollars and total military expenditures in current dollars, conversion rates, and shares of defense in GNP. Given the limitations of time, accessible information, and material resources, we applied the best feasible methods of estimation available at present.

For each country the GNP values in current market prices in the respective national currencies were estimated as follows: Detailed independent estimates of GNP were made at our Research Project for Czechoslovakia for 1966 and 1967 and for Hungary for 1967 and 1968. Also rough estimates of GNP are available for East Germany for 1966 and Romania for 1968, for Bulgaria for 1968 and 1970. For Poland, detailed independent estimates of GNP are available only for 1954-1956, with rough estimates for the later 1960s. On the basis of the ratios between GNP and official national income (material product) for benchmark years, we were able to inflate the official national income series to the GNP concept for all other years covered in this study. It is to be noted that these ratios exhibited a degree of stability comparing the middle of the 1950s with the 1967-1968 period.

For purposes of this study, officially given military expenditures series are assumed to include the direct cost of maintenance of mili-

tary personnel, cost of military equipment and supplies, and maintenance of equipment and structures. In East Germany, expenditures for internal security are included in the military expenditures data. On the other hand, indirect military activity, i.e., expenditures on military research and development, industrial investment spending on military facilities, and a variety of other related spending are not included in the national defense figures. Some adjustments of official figures to conform somewhat more closely with the U.S. definition of military purposes are made in Chapter III.

The general level and relative importance of military expenditures in different East European countries may be obtained by expressing the defense outlays in percentages of the total GNP. Such a comparison will be meaningful only if the pricing of the defense and non-defense (civilian) components of GNP is uniform. Unfortunately, in all centrally planned economies, the prices of civilian consumption goods and services, because of the heavy incidence of turnover taxes, are relatively high in relation to prices of investment goods and, particularly, military hardware and other procurement items, on which turnover taxes generally are not imposed. Also, most probably, the production of defense items is heavily subsidized through the state budget. This uneven incidence of pricing results in substantial underestimation of the "real" cost of military spending when expressed as a percentage of GNP at market prices in domestic currencies (Table 1, column 6).

TABLE 1.—GNP, DEFENSE EXPENDITURES, AND IMPLICIT CONVERSION RATES OF EAST EUROPEAN COUNTRIES<sup>1</sup>

	GNP, millions of 1975 dollars	GNP millions of current dollars	Implicit conversion rate (\$=in domestic currency)	Indexes in current dollars 1965=100		Defense as per centage of GNP in	
				GNP	Defense	Domestic currencies	Dollars
<b>Bulgaria:</b>							
1965	11,781	6,880	1.27	100.0	100.0	2.6	10.1
1966	12,273	7,675	1.25	111.6	103.3	2.5	9.4
1967	13,419	8,333	1.24	121.1	106.9	2.4	8.9
1968	13,690	8,883	1.27	129.1	110.8	2.3	8.7
1969	14,361	9,787	1.26	142.3	119.4	2.4	8.5
1970	15,174	10,895	1.26	158.4	134.0	2.4	8.6
1971	15,704	11,850	1.14	172.2	149.4	2.6	8.8
1972	16,482	12,953	1.13	188.3	166.1	2.7	8.9
1973	17,165	14,271	1.11	207.4	189.2	2.7	9.2
1974	17,730	16,219	1.05	235.7	226.0	2.8	9.7
1975	19,050	19,050	.97	276.9	241.3	3.0	8.8
1976	19,933	20,950	.95	304.5	259.1	3.0	8.6
<b>Czechoslovakia:</b>							
1965	38,801	22,660	9.75	100.0	100.0	4.4	7.4
1966	40,508	24,434	10.14	107.8	102.3	4.3	7.0
1967	42,254	26,240	10.85	115.8	110.3	4.3	7.1
1968	44,156	28,653	11.17	126.4	115.3	4.1	6.7
1969	44,970	30,647	11.78	135.2	119.3	3.9	6.5
1970	45,940	32,985	11.55	145.6	118.2	3.9	6.0
1971	47,531	35,867	11.05	158.3	134.5	3.9	6.3
1972	49,238	38,696	10.85	170.8	143.4	3.7	6.2
1973	50,868	42,292	10.65	186.6	158.1	3.6	6.3
1974	52,731	48,238	10.19	212.9	178.2	3.6	6.2
1975	54,127	54,127	9.56	238.9	190.6	3.5	5.9
1976	55,136	57,948	9.29	255.7	192.3	3.8	5.6
<b>East Germany:</b>							
1965	44,677	26,091	3.91	100.0	100.0	3.2	5.0
1966	46,017	27,757	3.86	106.4	105.0	3.1	5.0
1967	47,492	29,493	3.89	113.0	115.1	3.3	5.1
1968	49,681	32,238	3.74	123.6	149.4	4.2	6.1
1969	50,842	34,649	3.66	132.8	163.4	4.3	6.2
1970	52,093	37,403	3.58	143.4	181.7	4.5	6.4
1971	53,166	40,119	3.49	153.8	195.4	4.4	6.4
1972	55,131	43,327	3.42	166.1	210.1	4.4	6.4
1973	56,740	47,174	3.29	180.8	235.8	4.4	6.6
1974	59,554	54,480	3.04	208.8	262.5	4.3	6.3
1975	61,476	61,476	2.84	235.6	301.0	4.3	6.4
1976	62,950	66,160	2.74	253.6	326.5	4.4	6.5
<b>Hungary:</b>							
1965	18,235	10,649	19.81	100.0	100.0	2.7	6.6
1966	19,293	11,638	19.91	109.3	96.4	2.3	5.8
1967	20,387	12,660	20.12	118.9	96.4	2.1	5.3
1968	20,624	13,383	21.00	125.7	106.3	2.4	5.5
1969	21,262	14,490	21.56	136.1	117.8	2.4	5.7
1970	21,189	15,214	21.88	142.9	138.8	2.8	6.4
1971	22,210	16,760	21.63	157.4	147.6	2.7	6.1
1972	22,739	17,871	21.99	167.8	153.9	2.4	6.0
1973	23,870	19,846	21.83	186.4	164.8	2.2	5.8
1974	24,617	22,520	20.28	211.5	188.3	2.3	5.8
1975	25,219	25,219	19.31	236.8	203.9	2.4	5.6
1976	25,511	26,812	18.98	251.8	208.0	2.4	5.4
<b>Poland:</b>							
1965	49,477	28,895	21.58	100.0	100.0	3.8	7.0
1966	52,594	31,725	21.09	109.8	103.8	3.8	6.6
1967	54,524	33,859	20.83	117.2	110.3	3.8	6.6
1968	57,789	37,499	20.67	129.8	122.7	4.0	6.6
1969	57,245	39,012	20.79	135.0	134.0	4.2	6.9
1970	60,164	43,198	20.02	149.5	140.7	4.0	6.6
1971	64,419	48,611	20.47	168.2	162.5	3.8	6.7
1972	69,020	54,243	20.72	187.7	176.1	3.4	6.5
1973	74,166	61,662	21.36	213.4	193.3	3.2	6.3
1974	78,569	71,875	21.37	248.7	223.3	3.0	6.3
1975	82,923	82,923	20.80	287.0	249.1	2.9	6.0
1976	87,624	92,093	20.04	318.7	270.9	3.0	5.9
<b>Romania:</b>							
1965	26,671	15,576	14.57	100.0	100.0	2.1	7.2
1966	29,711	17,922	13.92	115.1	100.3	2.0	6.3
1967	31,045	19,279	13.91	123.8	95.5	1.9	5.6
1968	31,685	20,560	13.95	132.0	102.0	2.0	5.6
1969	33,125	22,575	13.65	144.9	117.9	2.0	5.9
1970	33,872	24,320	13.53	156.1	129.8	2.1	6.0
1971	38,646	29,162	12.74	187.2	131.1	2.0	5.1
1972	41,073	32,279	12.68	207.2	152.4	1.9	5.3
1973	42,407	35,257	12.89	226.4	158.6	1.7	5.1
1974	44,754	40,941	12.44	262.8	173.4	1.7	4.8
1975	46,674	46,674	12.03	299.7	199.0	1.7	4.8
1976	49,981	52,530	11.81	337.2	207.3	1.7	4.4

See footnote at end of table.

TABLE 1.—GNP, DEFENSE EXPENDITURES, AND IMPLICIT CONVERSION RATES OF EAST EUROPEAN COUNTRIES<sup>1</sup>—Continued

	GNP, millions of 1975 dollars	GNP, millions of current dollars	Defense, millions of current dollars	Indexes in current dollars 1965=100		Defense as percentage of GNP in—		Nonper- sonal and R. & D costs as percent of defense in current dollars
				GNP	Defense	Domestic curren- cies <sup>2</sup>	Dollars	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
<b>Eastern Europe:</b>								
1965.....	189,642	110,751	7,522	100.0	100.0	3.1	6.8	37.1
1966.....	200,846	121,151	7,702	109.4	102.4	3.0	6.4	39.1
1967.....	209,121	129,864	8,072	117.3	107.3	3.0	6.2	40.3
1968.....	217,625	141,216	9,025	127.5	120.0	3.2	6.4	43.4
1969.....	221,805	151,160	9,822	136.5	130.6	3.2	6.5	43.7
1970.....	228,432	164,015	10,561	148.1	140.4	3.3	6.4	45.7
1971.....	241,676	182,369	11,638	164.7	154.7	3.2	6.4	45.0
1972.....	253,683	199,369	12,652	180.0	168.2	3.1	6.3	42.3
1973.....	265,216	220,502	13,890	199.1	184.7	3.0	6.3	41.2
1974.....	277,955	254,273	15,767	229.6	209.6	3.0	6.2	40.6
1975.....	289,469	289,469	17,520	261.4	232.9	3.0	6.0	41.5
1976.....	301,135	316,493	18,551	285.8	246.6	3.0	5.9	43.9

<sup>1</sup> Data for 1976 are preliminary.<sup>2</sup> Unweighted average of percentages in all 6 countries.

Sources: Calculated from data given in Thad P. Alton, Gregor Lazarcik, Lázsló Czirjak, and Elizabeth M. Bass, "Estimates of Military Expenditures in Eastern Europe," Washington, D.C., U.S. Arms Control and Disarmament Agency, 1973, tables 1, 2, 4, and 5, revised and updated for 1971-76.

TABLE 2.—AVERAGE ANNUAL PERCENTAGE RATES OF CHANGE IN GNP AND DEFENSE EXPENDITURES FOR EAST EUROPEAN COUNTRIES, 1965-76<sup>1</sup>

[Calculated from data in constant 1975 and current dollars]

Country and period	Gross national product		Defense expenditures, current dollars		
	Constant 1975 dollars	Current dollars	Total	Personnel costs	Nonpersonnel and R. & D. costs
	(1)	(2)	(3)	(4)	(5)
<b>Bulgaria:</b>					
1965-70.....	5.1	9.2	5.7	5.3	7.6
1970-75.....	4.5	11.6	13.3	11.9	19.1
1965-75.....	4.7	10.2	9.8	8.8	14.6
1976.....	4.6	10.0	6.4	4.9	11.2
<b>Czechoslovakia:</b>					
1965-70.....	3.5	7.8	3.9	1.6	6.4
1970-75.....	3.4	10.4	10.0	12.0	7.9
1965-75.....	3.3	8.8	6.7	6.3	7.0
1976.....	1.9	7.1	.9	-9.7	12.3
<b>East Germany:</b>					
1965-70.....	3.2	7.6	14.0	8.4	18.7
1970-75.....	3.5	10.5	10.6	12.5	9.3
1965-75.....	3.2	8.7	11.7	9.7	13.4
1976.....	2.4	7.6	8.5	6.0	10.3
<b>Hungary:</b>					
1965-70.....	3.1	6.0	29.3	4.3	13.4
1970-75.....	3.6	10.6	8.1	8.8	6.5
1965-75.....	3.1	8.1	17.5	7.3	10.9
1976.....	1.2	6.3	2.0	.3	5.4
<b>Poland:</b>					
1965-70.....	3.8	8.1	7.6	4.3	11.4
1970-75.....	6.7	13.9	11.8	17.4	5.4
1965-75.....	5.2	10.8	9.7	11.4	7.7
1976.....	5.7	11.1	8.7	3.7	16.6
<b>Romania:</b>					
1965-70.....	4.5	8.9	5.4	3.6	12.2
1970-75.....	6.1	13.3	9.0	9.1	8.9
1965-75.....	5.6	11.3	7.6	6.6	10.9
1976.....	7.1	12.5	4.2	2.2	9.5
<b>Eastern Europe:</b>					
1965-70.....	3.7	8.1	7.5	4.4	12.1
1970-75.....	4.8	11.9	10.6	13.6	8.0
1965-75.....	4.2	9.8	9.1	9.0	9.8
1976.....	4.0	9.3	5.9	1.5	12.1

See footnote at end of table.

TABLE 2.—AVERAGE ANNUAL PERCENTAGE RATES OF CHANGE IN GNP AND DEFENSE EXPENDITURES FOR EAST EUROPEAN COUNTRIES, 1965-76 —Continued

[Calculated from data in constant 1975 and current dollars]

Country and period	Gross national product		Defense expenditures, current dollars		
	Constant 1975 dollars	Current dollars	Total	Personnel costs	Nonpersonnel and R. & D. costs
	(1)	(2)	(3)	(4)	(5)
<b>U.S.S.R.:</b>					
1965-70.....	4.7	9.1	8.1	5.3	11.3
1970-75.....	4.0	11.1	9.7	-----	-----
1965-75.....	4.4	10.0	8.6	-----	-----
1975.....	-----	-----	-----	-----	-----
<b>United States:</b>					
1965-70.....	3.1	7.5	8.5	11.9	10.7
1970-75.....	2.5	9.4	3.5	3.7	.2
1965-75.....	2.8	8.2	3.7	6.9	2.7
1976.....	6.1	11.5	4.6	5.1	8.3

<sup>a</sup> Rates are based on least squares fit to  $1_n = 1_0 (1+r)^n$ . Data for 1976 are preliminary.

Sources: For East European countries, tables 1 and 6. For the U.S.S.R. and the United States, U.S.A.C.D.A., "World Military Expenditures and Arms Transfers", 1965-74 and 1966-75 issues; "Survey of Current Business," No. 2, 1977. U.S. Congress, Joint Economic Committee, "Soviet Economic Prospects for Seventies," 1973, p. 149; U.S. Department of Commerce, "Statistical Abstract of the United States, 1971, p. 242, and 1976, p. 327.

The conversion of military expenditures given in national currencies into current dollars is a very difficult task, given the lack of information on prices of military items and composition of military procurements in East European countries. Proper conversion, indeed, would require information on the composition of the forces, rates of military pay, the quantity, quality and technical characteristics of the various military items purchased in each year, and the value weights in the national currencies and in dollars. This study offers one approach to the problem of conversion. This approach is based on implicit conversion rates for GNP derived from comparisons of dollar estimates of GNP and domestic currency estimates of GNP, both given in current prices. Further refinements involve estimates of the structure of military expenditures, presented in Chapter III, with components then converted separately from domestic currencies into current dollars, as described in Chapter IV. All the conversion rates used, it should be said, rest on approximative methods and accordingly should be interpreted with caution.

In this study, the GNP dollar figures were first derived in constant 1975 prices on the basis of the 1975 GNP dollar values and then extended by GNP indexes shown by Alton.<sup>1</sup> The GNPs in constant 1975 dollars were then deflated into current dollars by the US GNP implicit price deflator.

The new estimates of defense spending (Table 1, col. 5 and Table 6, col. 1) value the East European (and the USSR) military personnel services directly in dollars at United States pay rates for officers and men, with some adjustments for quality. For converting the military nonpersonnel and research and development expenditures from domestic currencies into dollars we used the implicit average exchange rates (Table 1, col. 3) derived from comparisons of the esti-

<sup>1</sup> Thad P. Alton, "Comparative Structure and Growth of Economic Activity in Eastern Europe," in this volume, Tables 10 and 13.

mated GNPs in domestic currencies and the corresponding dollar values of the GNPs in current prices.

The important findings in Tables 1 and 2 may be summarized as follows:

1. The implicit conversion rates between East European domestic currencies and the US dollar decreased in the last eight years in most countries because the rate of inflation in the United States was higher than in most East European countries, especially in the 1970s.

2. Military expenditures expressed as percentages of GNP are substantially lower (in some countries several times lower, e.g., Bulgaria, Hungary, Romania) in domestic currencies than in current dollars. There are two reasons for these large differences: (a) the very low nominal pay rates in Eastern Europe for enlisted men (a small fraction of their opportunity costs), and (b) price distortions (the uneven incidence of turnover taxes, accounting profit taxes, and subsidies) which result in very low percentage shares for military expenditures in GNP at current market prices (as compared to shares on other bases of valuation, e.g., at dollar prices). Thus, these percentage shares of GNP in domestic currencies of centrally planned East European countries are very misleading for comparisons with percentage shares in other countries where such extreme valuation abnormalities do not occur (e.g. Western Europe, USA, Canada).

3. Our new estimates based on dollar valuations indicate that the percentage share of GNP spent on defense in Eastern Europe as a whole is more than double the corresponding percentage of GNP calculated in the national currencies.

4. When valued in dollars, the nonpersonnel and research and development expenditures (operations, maintenance, military procurements) expressed as a percentage of total defense outlays increased steadily from 37 percent in 1965 to about 44 percent in 1976. This would indicate a continuation of progress in mechanization and modernization of Eastern Europe's military forces.

5. Based on valuations in current dollars, defense spending grew at a somewhat slower rate than GNP (Table 2). In most of the countries defense spending grew at a slower rate in the 1965-1970 period than in the 1970-1975 period. For Eastern Europe as a whole, the average annual rate in the latter period was 10.6 percent, while that in the former period was 7.5 percent.

6. In all Eastern European countries except Poland, the nonpersonnel and R&D costs grew at substantially higher rates than personnel costs. The high annual percentage rates of growth of nonpersonnel costs observable in Bulgaria, East Germany, Hungary, and Romania over the last ten years apparently indicate rapid progress in mechanization and modernization of their armed forces.

7. Comparison of Eastern Europe with the USSR shows that the rate of growth of GNP was about the same in 1965-1975 in both regions and likewise the rate of growth of defense spending was about the same in both. The other Warsaw Pact member countries have contributed a lower share of their GNP's to defense than the USSR. In the last five years, however, the average annual rate of growth in military spending has been higher in Eastern Europe than in the USSR.

8. Comparison with the US, however, shows distinct differences. The average annual rate of growth of defense spending in current dollars from 1956 to 1975 has been significantly lower in the US than in the USSR or in Eastern Europe. The contrast is greatest for the 1970-1975 period, when the US GNP grew at an average annual rate of 9.4 percent, while the military expenditures grew only at 3.5 percent. The respective percentages for the USSR were 11.1 and 9.7, and for Eastern Europe, 11.9 and 10.6 (Table 2).

9. US military outlays on nonpersonnel and R&D costs in current dollars increased only 2 percent from 1970 to 1975. Since US wholesale prices increased by 58 percent in the same period, the nonpersonnel spending (operations, maintenance, military procurements, and research and development) actually declined by about 35 percent in real terms. This is in contrast to the continuous increase of these costs in the USSR and Eastern Europe in the same period.

10. In the NATO member countries (excluding the U.S. and Canada), defense spending accounted for only 3.7 percent of GNP in dollar valuation in the 1970-1975 period. Thus the NATO allies in Western Europe are carrying a disproportionately smaller share of the burden of NATO defense than the United States, which contributed 6.6 percent of GNP to defense in the 1970-1975 period.<sup>2</sup> Such a favored relationship did not exist between the USSR and the other members of the Warsaw Pact.

11. It should be noted that Eastern Europe as a whole currently spends, in terms of dollars, more on defense than any other country besides the U.S. and the USSR, or about one-fifth as much as the United States (see Tables 1 and 6). This is a significant contribution to the total defense expenditures of the Warsaw Pact.

12. One may conclude that the overall military posture of the Warsaw Pact countries has been steadily improving over the last ten years while that of the United States and other NATO countries has been deteriorating in relative terms. In other words, the United States and its NATO allies have materially reduced their military efforts, while the USSR and Eastern Europe continued to increase their military spending.

13. The tentative conclusions of this study point to the need for further research on comparisons of economic potential and related military expenditures.

The results shown in Tables 1 and 2 can be improved by detailed studies of the structure of the GNPs in current market prices and in prices with adjustment toward factor cost for all the countries under study, enabling corrections for major deviations from factor costs. Further research on exchange rates based on purchasing power parities is necessary for improving the international comparability of defense spending of various countries. Use of reliable purchasing power parity exchange rates could substantially alter the results shown here. A survey of currently used and alternative dollar conversion rates is provided in Chapter IV.

<sup>2</sup> ACDA, "World Military Expenditures and Arms Transfers, 1966-1975," pp. 15 and 51; "Statistical Abstract of the United States, 1976," pp. 327 and 434.

### III. ESTIMATES OF THE DEFENSE EXPENDITURES OF EAST EUROPEAN COUNTRIES BY MAJOR PURPOSE, IN CURRENT DOMESTIC CURRENCIES

The estimates presented in Table 3 offer a breakdown of direct defense budget expenditures between outlays to support uniformed military personnel and those for operations, maintenance, and procurements as a residual category that could not be further subdivided except on an arbitrary basis. In addition, some rough measures to reflect presumed research and development of a military nature financed outside of budget defense appropriations are offered for the three countries in which such activities may reasonably be thought to be greater than negligible.

TABLE 3.—ESTIMATES OF DEFENSE EXPENDITURES BY MAJOR PURPOSE, EAST EUROPEAN COUNTRIES, IN CURRENT DOMESTIC CURRENCIES, 1965-76<sup>1</sup>

	Defense budget expenditures						Total (1)+(6)
	Total	Personnel costs			Operations, maintenance and procurements	Research and develop- ment	
		Total	Military pay	Subsist- ence			
<b>Bulgaria<sup>2</sup> (million leva):</b>							
1965	230	93	47	46	137	-----	230
1966	240	101	52	49	139	-----	240
1967	247	115	61	54	132	-----	247
1968	264	126	64	62	138	-----	264
1969	302	127	63	64	175	-----	302
1970	324	126	65	63	198	-----	324
1971	354	129	66	63	225	-----	354
1972	391	131	67	64	260	-----	391
1973	422	147	75	72	275	-----	422
1974	483	161	80	80	322	-----	483
1975	548	158	79	79	390	-----	548
1976	596	171	85	86	425	-----	596
<b>Czechoslovakia</b>							
(million crowns):							
1965	7,896	2,539	1,038	1,501	5,357	1,722	9,618
1966	8,890	2,520	1,057	1,463	6,370	1,826	10,716
1967	10,156	2,710	1,127	1,583	7,446	2,083	12,239
1968	10,945	3,014	1,233	1,781	7,931	2,332	13,277
1969	12,034	3,282	1,304	1,978	8,752	2,038	14,072
1970	12,470	2,795	1,313	1,482	9,675	2,249	14,719
1971	12,972	3,014	1,373	1,641	9,958	2,384	15,356
1972	13,169	3,128	1,429	1,699	10,041	2,318	15,487
1973	13,804	3,275	1,480	1,795	10,529	2,527	16,331
1974	14,738	3,530	1,568	1,962	11,208	2,729	17,467
1975	15,133	3,416	1,517	1,899	11,717	3,000	18,133
1976	15,930	3,162	1,445	1,717	12,768	3,298	19,228
<b>East Germany<sup>3</sup></b>							
(million marks):							
1965	3,100	629	332	297	2,271	155	3,255
1966	3,200	679	358	321	2,521	160	3,360
1967	3,600	717	376	341	2,883	180	3,780
1968	4,814	812	434	378	4,002	241	5,055
1969	5,229	848	452	396	4,381	261	5,490
1970	5,712	838	466	372	4,874	286	5,998
1971	6,019	837	479	358	5,182	301	6,320
1972	6,217	858	495	363	5,359	311	6,528
1973	6,571	929	514	415	5,642	329	6,900
1974	6,746	957	529	428	5,789	337	7,083
1975	7,154	1,058	569	489	6,096	358	7,512
1976	7,613	1,126	608	518	6,487	381	7,994

Footnotes at end of table.

TABLE 3.—ESTIMATES OF DEFENSE EXPENDITURES BY MAJOR PURPOSE, EAST EUROPEAN COUNTRIES, IN CURRENT DOMESTIC CURRENCIES, 1965-76—Continued

	Defense budget expenditures						Total (1)+(6)
	Total	Personnel costs		Operations, maintenance and procurements	Research and develop- ment	Total (1)+(6)	
		Total	Military pay				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
<b>Hungary (million forints):</b>							
1965	5,757	1,982	1,028	954	3,775		5,757
1966	5,219	2,032	1,069	963	3,187		5,219
1967	5,433	2,004	1,084	920	3,429		5,433
1968	6,611	2,051	1,123	928	4,560		6,611
1969	7,644	2,131	1,168	963	5,513		7,644
1970	9,448	2,195	1,235	960	7,253		9,448
1971	9,891	2,166	1,226	940	7,725		9,891
1972	9,430	2,294	1,282	1,012	7,136		9,430
1973	9,488	2,386	1,332	1,054	7,102		9,488
1974	10,564	2,477	1,414	1,063	8,087		10,564
1975	11,811	2,532	1,459	1,073	9,279		11,811
1976	12,275	2,650	1,520	1,130	9,625		12,275
<b>Poland (million zlotys):</b>							
1965	23,255	4,623	2,620	2,003	18,632	297	23,552
1966	25,213	4,412	2,513	1,899	20,801	338	25,551
1967	26,438	4,725	2,656	2,069	21,713	412	26,850
1968	30,332	4,981	2,779	2,202	25,351	442	30,774
1969	33,519	5,150	2,830	2,320	28,369	424	33,943
1970	34,084	4,740	2,607	2,133	29,344	450	34,534
1971	36,754	5,760	3,097	2,663	30,994	986	37,740
1972	36,971	6,223	3,379	2,844	30,748	1,274	38,245
1973	40,441	6,885	3,717	3,168	33,556	1,678	42,119
1974	43,730	7,638	4,177	3,461	36,092	1,876	45,606
1975	47,602	8,909	4,914	3,995	38,693	2,070	49,672
1976	52,928	9,617	5,317	4,300	43,311	2,504	55,432
<b>Romania (million lei):</b>							
1965	4,735	1,624	808	816	3,111		4,735
1966	4,927	1,686	848	838	3,241		4,927
1967	5,146	1,617	852	765	3,529		5,146
1968	5,751	1,665	877	788	4,086		5,751
1969	6,319	1,823	929	894	4,496		6,319
1970	7,067	1,955	1,016	939	5,112		7,067
1971	7,424	1,849	1,015	834	5,575		7,424
1972	7,710	1,981	1,051	930	5,729		7,710
1973	7,835	2,019	1,088	931	5,816		7,835
1974	8,744	2,091	1,148	943	6,653		8,744
1975	9,713	2,378	1,268	1,110	7,335		9,713
1976	10,434	2,543	1,368	1,175	7,891		10,434

<sup>1</sup> Data for 1976 are preliminary.

<sup>2</sup> Defense budget data for Bulgaria have not been published since 1970. Expenditures for 1971-75 are estimated as 6 percent of total planned budget outlays, the approximate share they accounted for in 1966-70. For 1976, in view of major changes in the budget structure, the estimate is based on 12 percent of total planned outlays excluding outlays on the national economy.

<sup>3</sup> Excluding the civilian portion of internal security.

Source: "Estimates of Military Expenditures in Eastern Europe," *op. cit.*, and notes thereto, revised and updated to 1971-76.

The concept of "military purpose" providing the underlying framework for these estimates is fairly strict. The intention is to reflect current outlays to support, equip, and administer armed forces, plus research and development directly related to military purposes. No attempt has been made to assess industrial investments that may be related to armaments production. Nor has any attempt been made to include here various military related outlays known to be financed outside the defense budgets proper, such as benefits to soldiers' families and paid leave for reservists. Investment expenditures made directly by ministries of defense, however, are implicitly included.

The definition of armed forces followed for these estimates includes, in addition to the regular army, navy, and air forces, the border guard troops routinely organized and equipped as army units in all these countries, and the security troops that are essentially military in their organization and equipment. It is important to distinguish between these latter, the "militarized police," and the various other internal security units, such as the secret police, the workers' militia, customs guards, prison guards, and other uniformed services that do not seem to be directly military in their organization and potential. This "civilian" portion of internal security is excluded from the estimates. Adjustments have accordingly been made in the budget expenditure totals for East Germany, whose published budget appropriation figures reflect defense and internal security taken together.

The general estimation method followed was the same for all the six countries covered. Working from estimates of regular forces and "paramilitary" border and security troops published by the Institute for Strategic Studies, London, and ACDA, the pay and subsistence of these forces were calculated with reference to national wage rates and consumption data. Exact procedures varied somewhat with the availability or non-availability of data or other evidence of national differences in structure. The resulting personnel costs were then deducted from the defense budget expenditure totals to obtain the estimates for operations (including civilian personnel and other administrative expenses), maintenance and procurements (other than supplies for the subsistence of uniformed personnel). The bases for the research and development estimates were budget expenditures on "science and research", of which only a portion were deemed "military". Again, varying availability of data necessitated some differences in method.

Inevitably, these estimates must be regarded as rough approximations. Many choices underlie them, some involving no small element of arbitrariness. For this set of estimates, we have continued to treat all paramilitary forces (border guards, security troops) as though they were financed out of defense budget appropriations uniformly in all countries. There is, however, increasing evidence that in some cases they are supported by the budgets of other, non-defense, ministries. Our personnel cost estimates may thus include manpower that is not actually paid for out of nominal defense appropriations. To the extent that this is so, it would simply mean that our estimates of nonpersonnel costs, derived as residuals from the official defense budgets, are too low.

The general results for all countries show a clear tendency for total defense expenditures to rise more rapidly than personnel costs. The rise in personnel costs, it should be noted, is partly attributable to the fact that rising wage levels and rising costs of living are reflected in our estimates of pay and subsistence. The numbers of personnel have tended to increase somewhat in very recent years, according to the Institute for Strategic Studies estimates. Increasing costs of operations, maintenance and procurements per uniformed effective are, of course, a logical concomitant of modernization, the introduction of more sophisticated and more expensive weaponry, communications and other equipment.

With regard to the changing structure of the observed defense budgets, it seems important to state that none of the breakdowns of expenditure by purpose in these estimates rely directly on the technique of estimating by analogy with other countries or earlier time periods. In the Benoit-Lubell estimates, analogy to Poland is the basis for all the countries in question but Czechoslovakia, and their sources suggest that their detailed breakdown of the residual after personnel costs for both countries derives from estimates made for 1956.<sup>3</sup> In the estimates presented here in Table 3, the technique of analogy was almost totally confined to minor aspects, such as differentials between enlisted men's and officers' pay.

No structural rule of thumb was applied to all in common beyond the assumption with regard to financing paramilitary troops, discussed above. The broad results are the product of numbers of troops and rates of pay and subsistence calculated separately for each country. No reasonably sound up-to-date basis was found for a breakdown of the operations-maintenance-procurement residuals, hence no new attempt was made in this regard.

#### IV. DOLLAR ESTIMATES OF EAST EUROPEAN MILITARY EXPENDITURES BY MAJOR PURPOSE, AND EXISTING CONVERSION RATES

For international comparisons of military expenditures, or of other components of national products of the Warsaw Pact countries, it is necessary to express the given values in the national currencies in a common unit of value. The present chapter will survey various available approaches for conversions into United States dollars and describe the alternative used for the estimates in this report.

Among the available conversion rates are two sets of official exchange rates and two sets of Western conversion rates applied to military expenditures. For each country, the official rates are the "basic" rate that is used as a unit of account in foreign trade statistics and the "non-commercial" or tourist rate applied to travellers' funds and sometimes to other personal transactions. The two sets of Western rates are, first, those estimated by Benoit and Lubell and subsequently adopted as the basis for dollar estimates published by the Stockholm International Peace Research Institute (SIPRI) and the Institute for Strategic Studies, London (ISS), and second, those used for dollar estimates published by the U.S. Arms Control and Disarmament Agency (ACDA) for 1960-1970.<sup>4</sup> A complete set of our rates for 1965-1976 appears in this study in Table 1, column 3. Various rates for 1975 shown in Table 4 were chosen for purposes of comparison with the original Benoit-Lubell estimates, which referred to 1964/1965. For all countries, our conversion rates are higher than the Benoit-Lubell rates. For 1975 our rates are close to the tourist rates for Czechoslovakia, Hungary, and Romania.

<sup>3</sup> Emile Benoit, ed. "Disarmament and World Economic Interdependence," New York, Columbia University Press, 1967, pp. 31-32 and 37.

<sup>4</sup> These rates were calculated for ACDA by Thad P. Alton, Gregor Lazarcik, Laszlo Czirjak, and Elizabeth Bass at the Research Project on National Income in East Central Europe, L.W. International Financial Research, Inc., New York, N.Y.

TABLE 4.—MAJOR AVAILABLE SETS OF RATES FOR CONVERTING EAST EUROPEAN NATIONAL CURRENCIES TO U.S. DOLLARS

Country	Official rates		Ours		Benoit-Lubell
	Basic 1975	Non-commercial (tourist) 1975	1975	1965	1964-65
	(1)	(2)	(3)	(4)	(5)
Bulgaria (leva).....	0.97	1.16	0.97	1.27	1.16
Czechoslovakia (crowns).....	5.56	9.73	9.56	9.75	8.50
East Germany (marks).....	2.42	2.42	2.84	3.91	3.39
Hungary (forints).....	8.61	20.66	19.36	19.81	17.36
Poland (zlotys).....	19.91	32.67	20.80	21.58	15.92
Romania (lei).....	4.97	12.00	12.03	14.57	9.43

Sources: Cols. 1 and 2: "Eastwest Markets," 1975, Chase World Information Corporation, New York, 1975. The rates are averages of 12 mos. Cols. 3 and 4: Table 1. Col. 5: Emile Benoit, ed. "Disarmament and World Economic Interdependence," New York, 1967, p. 40.

Of the two sets of official rates, it may be said that neither offers a satisfactory basis for converting military expenditures. The arbitrary nature of the "basic" rates is well known; indeed, it is admitted that they bear no meaningful relationship to purchasing power parity with respect to the goods moving in international trade. The noncommercial, or tourist rates, in contrast, are intended to and apparently largely do reflect purchasing power parities for a tourist's basket of consumer goods and services. Here, however, the objection is that such purchases not only represent a product mix lacking many of the elements included in military expenditures, but also that they are made at prices including a high incidence of turnover tax, from which purchases by East European ministries of defense are thought to be largely exempt, and probably higher profit rates than the average included in the prices of military procurements.

The Benoit-Lubell rates, in the words of their authors, represent "very rough purchasing power parity".<sup>5</sup> The rather general account provided of their derivation indicates that they are based on comparisons of general national income and product aggregates. It is not clear whether or not any consistent effort was made when deriving these estimates to allow for the skewed incidence of turnover tax and profits in East European prices of different categories of goods and for different categories of buyers. The authors were, however, quite aware of this problem, as evidenced by their use of differential rates for various components of the USSR's defense expenditures.<sup>6</sup>

The set of rates hitherto used for dollar estimates published by ACDA were given implicitly by estimates of GNP in national currencies and in dollars, with adjustments to remove the turnover tax and profits and profit taxes from the national currency values. These elements are believed to be absent in the prices paid by ministries of defense in Eastern Europe. The conversion rates thus derived must also be regarded as very rough approximations of purchasing power parity.<sup>7</sup>

<sup>5</sup> Emile Benoit, ed. "Disarmament and World Economic Interdependence," New York, 1967, p. 40.

<sup>6</sup> Specifically (in rubles per \$1 US): 0.5 for procurements, R&D, operations, maintenance, and construction; 0.2 for cash pay of military personnel and cost of transfers; 1.0 for military subsistence; see Benoit, *op. cit.*, p. 40.

<sup>7</sup> Details on these rates will be found in "Estimates of Military Expenditures in Eastern Europe," *op. cit.*, Notes to Table 1.

Clearly, the rates implicitly given by comparisons of aggregates in national currencies and in dollars are far from ideal. They reflect the roughness of the basic estimates. However, more satisfactory information on purchasing power parities is thus far fragmentary. Some work in this field has been done among the East European countries themselves, but very few results have been published. Joint efforts by the United Nations, the World Bank, and the International Comparison Unit of the University of Pennsylvania recently produced a study on purchasing power parity conversion rates for ten countries, including Hungary.<sup>8</sup> For 1970, this study gives an overall GDP conversion rate to one U.S. dollar of 13.4 forints in Hungarian weights and 19.8 forints in U.S. weights. Our implicit GNP conversion rate is 21.9 forints for 1970. Unfortunately, the UN study does not give separate conversion rates for military end items.

Even if detailed purchasing power parity rates were available for application to the diverse bundles of military goods and services, there would still remain problems of choosing suitable weights for combining the detailed rates into rates appropriate for major components of military expenditures. The composition of the latter varies among countries and, for given countries, over time.

The new estimates offered in this chapter represent a somewhat more direct approach to the problem of converting East European military outlays into dollars, although they still, inevitably, rest in part on rates implicitly derived from GNP estimates in dollars and in national currencies. The roughness of the "purchasing power" parities underlying the dollar figures has already been noted. Our approach is to convert the military personnel costs within military expenditures by pricing the "products", that is, the services of the officers and enlisted men, directly in American prices. This is done entirely in terms of U.S. cash pay rates including allowances (Table 5). The reliance on implicit GNP rates is thus somewhat reduced in scope.

TABLE 5.—PAY RATES IN THE U.S. ARMED FORCES

[Basic pay including allowances in current dollars, as of June 30 of each year]

Year	Officers	Enlisted personnel	Enlisted personnel adjusted (75 percent of col. 2)
	(1)	(2)	(3)
1965.....	9,677	3,583	2,687
1966.....	9,811	3,612	2,709
1967.....	10,684	3,622	2,716
1968.....	10,697	3,862	2,896
1969.....	11,341	4,146	3,110
1970.....	12,947	4,734	3,550
1971.....	14,000	5,300	3,978
1972.....	15,000	6,000	4,500
1973.....	16,000	6,700	5,025
1974.....	17,800	7,500	5,625
1975.....	18,800	8,000	6,000
1976.....	20,000	8,300	6,225

Sources: 1965-66: U.S. Department of Commerce, "Statistical Abstract of the United States, 1965", p. 265; 1967: *ibid.*, 1968, p. 262; 1968: *ibid.*, 1969, p. 260; 1969-70: *ibid.*, 1971, p. 255; 1971-73: *ibid.*, 1973, p. 271; 1974-76: *ibid.*, 1976, p. 341.

<sup>8</sup> Irving B. Kravis, Zoltan Kenezsey, Alan Heston, Robert Summers, "A System of International Comparisons of Gross Product and Purchasing Power," Baltimore, Johns Hopkins University Press, 1975, p. 191.

Our results in current US dollars are presented in Table 6. The calculations are summarized below. We assumed that the percentage of officers in total military personnel was roughly the same as in the United States, or about 12 percent on the average for 1965-1970. We use this average for the East European countries for 1965-1976.<sup>9</sup> It may be noted that this ostensibly differs from the procedure in Chapter III where, for calculating the cost of military personnel in domestic currencies, we put the number of officers at about 20 percent of the total military personnel. This larger share was assumed to include lower grade officers, covering sergeants as well as commissioned officers.

TABLE 6.—ESTIMATES OF DEFENSE EXPENDITURES BY MAJOR PURPOSE, EAST EUROPEAN COUNTRIES

[In current U.S. dollars<sup>1</sup> (millions)]

Year	Total	Personnel costs	Nonpersonnel costs	Percentage shares or total	
				Personnel costs	Nonpersonnel costs
	(1)	(2)	(3)	(3)	(5)
<b>Bulgaria:</b>					
1965	697	589	108	84.5	15.5
1966	720	609	111	84.6	15.4
1967	745	639	106	85.8	14.2
1968	772	663	109	85.9	14.1
1969	832	693	139	83.3	16.7
1970	934	777	157	83.2	16.8
1971	1,041	844	197	81.1	18.9
1972	1,158	928	230	80.1	19.9
1973	1,319	1,071	248	81.2	18.8
1974	1,575	1,268	307	80.5	19.5
1975	1,698	1,296	402	76.3	23.7
1976	1,806	1,359	447	75.2	24.5
<b>Czechoslovakia:</b>					
1965	1,678	952	726	56.7	43.3
1966	1,716	908	808	52.9	47.1
1967	1,851	973	878	52.6	47.4
1968	1,934	1,015	919	52.5	47.5
1969	2,002	1,086	916	54.2	45.8
1970	1,983	950	1,033	47.9	52.1
1971	2,257	1,140	1,117	50.5	49.5
1972	2,406	1,267	1,139	52.7	47.3
1973	2,563	1,427	1,226	53.8	46.2
1974	2,990	1,623	1,367	54.3	45.7
1975	3,198	1,658	1,540	51.8	48.2
1976	3,226	1,497	1,729	46.4	53.6
<b>East Germany:</b>					
1965	1,313	641	672	48.8	51.2
1966	1,378	684	694	49.6	50.4
1967	1,511	724	787	47.9	52.1
1968	1,961	827	1,134	42.2	57.8
1969	2,145	877	1,268	40.9	59.1
1970	2,386	945	1,441	39.6	60.4
1971	2,566	995	1,571	38.8	61.2
1972	2,758	1,100	1,658	39.9	60.1
1973	3,096	1,281	1,815	41.4	58.6
1974	3,446	1,431	2,015	41.5	58.5
1975	3,952	1,680	2,272	42.5	57.5
1976	4,287	1,780	2,507	41.5	58.5
<b>Hungary:</b>					
1965	698	507	191	72.6	27.4
1966	673	513	160	76.2	23.8
1967	673	503	170	74.7	25.3
1968	742	525	217	70.8	29.2
1969	822	566	256	68.9	31.1
1970	969	638	331	65.8	34.2
1971	1,030	673	357	65.3	34.7
1972	1,074	749	325	69.7	30.3
1973	1,150	825	325	71.7	28.3
1974	1,314	915	399	69.6	30.4
1975	1,423	942	481	66.2	33.8
1976	1,452	945	507	65.1	34.9

See footnote at end of table.

<sup>9</sup> See U.S. Department of Commerce, "Statistical Abstract of the United States, 1971," p. 252. In the U.S., the percentage of officers increased to an average of 14 percent for the 1971-1975 period; see *ibid.*, 1976<sup>1</sup> p. 335.

TABLE 6.—ESTIMATES OF DEFENSE EXPENDITURES BY MAJOR PURPOSE, EAST EUROPEAN COUNTRIES—Continued  
 [In current U.S. dollars <sup>1</sup> (millions)]

Year	Total	Personnel costs	Nonpersonnel costs	Percentage shares or total	
				Personnel costs	Nonpersonnel costs
	(1)	(2)	(3)	(4)	(5)
<b>Poland:</b>					
1965.....	2, 012	1, 135	877	56. 4	43. 6
1966.....	2, 088	1, 086	1, 002	52. 0	48. 0
1967.....	2, 219	1, 157	1, 062	52. 1	47. 9
1968.....	2, 469	1, 222	1, 247	49. 5	50. 5
1969.....	2, 696	1, 311	1, 385	48. 6	51. 4
1970.....	2, 830	1, 342	1, 488	47. 4	52. 6
1971.....	3, 270	1, 708	1, 562	52. 2	47. 8
1972.....	3, 543	1, 999	1, 544	56. 4	43. 6
1973.....	3, 889	2, 239	1, 650	57. 6	42. 4
1974.....	4, 493	2, 716	1, 777	60. 4	39. 6
1975.....	5, 012	3, 053	1, 960	60. 9	39. 1
1976.....	5, 450	3, 164	2, 286	58. 1	41. 9
<b>Romania:</b>					
1965.....	1, 124	910	214	81. 0	19. 0
1966.....	1, 127	894	233	79. 3	20. 7
1967.....	1, 073	819	254	76. 3	23. 7
1968.....	1, 147	854	293	74. 5	25. 5
1969.....	1, 325	996	329	75. 2	24. 8
1970.....	1, 459	1, 081	378	74. 1	25. 9
1971.....	1, 474	1, 036	438	70. 3	29. 7
1972.....	1, 713	1, 261	452	73. 6	26. 4
1973.....	1, 783	1, 332	451	74. 7	25. 3
1974.....	1, 949	1, 417	532	72. 7	27. 3
1975.....	2, 237	1, 627	610	72. 7	27. 3
1976.....	2, 330	1, 662	668	71. 3	28. 7
<b>Eastern Europe:</b>					
1965.....	7, 522	4, 734	2, 788	62. 9	37. 1
1966.....	7, 702	4, 694	3, 008	60. 9	39. 1
1967.....	8, 072	4, 815	3, 257	59. 7	40. 3
1968.....	9, 025	5, 106	3, 919	56. 6	43. 4
1969.....	9, 822	5, 529	4, 293	56. 3	43. 7
1970.....	10, 561	5, 733	4, 828	54. 3	45. 7
1971.....	11, 638	6, 396	5, 242	55. 0	45. 0
1972.....	12, 652	7, 304	5, 348	57. 7	42. 3
1973.....	13, 890	8, 175	5, 715	58. 9	41. 1
1974.....	15, 767	9, 370	6, 397	59. 4	40. 6
1975.....	17, 520	10, 255	7, 265	58. 5	41. 5
1976.....	18, 551	10, 407	8, 144	56. 1	43. 9

<sup>1</sup> Data for 1976 are preliminary.

<sup>2</sup> Nonpersonnel costs include research and development costs.

Source: Calculated from "Estimates of Military Expenditures in Eastern Europe," op. cit., table 5, revised and updated for 1971-76.

In our calculations we estimated separately three functional categories of military expenditures: (1) personnel costs, broken into compensation for officers and for enlisted men, separately; (2) costs of operations, maintenance, and procurements; and (3) estimates of military research and development for those countries in which this category was believed to be of some significance (i.e. Czechoslovakia, East Germany, and Poland).<sup>10</sup> It is to be noted that military subsistence (cost of food and clothing) is included in compensation of officers and enlisted men in the dollar valuations.

Specifically, the estimates of different categories of outlays in current US dollars were done as follows: (1) The cost of personnel was obtained by attributing to officers in all East European countries (12 percent of total military personnel) the average yearly compensation in dollars of officers in the United States forces, and by attributing to the enlisted personnel in all East European countries (88

<sup>10</sup> Research and development is shown together with nonpersonnel costs (operations, maintenance, and procurements) in the table.

percent of total military personnel) 75 percent of the average yearly compensation (including subsistence) in dollars of enlisted men in the United States forces (Table 5). This rough downward adjustment of enlisted men's pay is justified by the consideration that the technical qualifications required of these men in Eastern Europe are assumed to be lower than in the United States. No similar downward adjustment was felt to be necessary for the officers' pay in Eastern Europe because their duties and competence are thought to be about the same as in the United States.

The average annual pay given in Table 5, columns 1 and 3, was multiplied by the number of officers and enlisted men for each country and year, respectively. The resulting values in US dollars are shown in Table 6, column 2, for officers and enlisted men combined.

(2) Dollar estimates of outlays on operations, maintenance, and procurements, and research and development (Table 6, column 3) were obtained by converting our estimates in domestic currencies for East European countries (Table 3, columns 5 and 6) by the GNP implicit average exchange rates between the US dollar and domestic currencies given in Table 1, column 3, for respective countries and years. These GNP exchange rates were derived by comparing GNPs in domestic currencies with the corresponding dollar values of the GNPs in current prices. The calculation of GNPs in constant and current US dollars is described in Chapter II, and the respective values are given in Table 1, columns 1 and 2. It is to be noted that the GNP dollar estimates in Table 1 are based on Maurice Ernst's study,<sup>11</sup> updated by Thad P. Alton.<sup>12</sup> The estimates were obtained as follows: First, the GNP at current domestic prices in the various East European countries was converted to West German marks by means of estimated purchasing power ratios for individual components of GNP. Second, the values in West German marks so obtained were then converted into US dollars by means of estimated purchasing power parity equivalents for 1955 prepared by Milton Gilbert and Associates.<sup>13</sup> Third, the 1955 US dollar values were converted to 1975 US dollars by using the implicit GNP price deflator. Fourth, the 1975 US dollar values of East European GNPs for the year 1955 were carried forward into the 1965-1976 period by East European GNP quantity indexes, and, fifth, the GNPs in constant US dollars of 1975 were deflated into current dollars by the US GNP price deflator.

It should be also noted that the estimates of military research and development outlays are very rough and were made only for Czechoslovakia, East Germany, and Poland, on the basis of very scanty information.

## V. CONCLUSIONS AND PROBLEMS

The preliminary findings on defense expenditures of East European countries presented in this brief study in national currencies and in US dollars are very tentative and very narrowly defined. They are based solely on the officially published budgets of the respective

<sup>11</sup> Maurice Ernst, in U.S. Congress, Joint Economic Committee, "New Directions in the Soviet Economy," Washington, 1966, Part IV, Appendix A, pp. 911-912.

<sup>12</sup> Thad P. Alton, "Comparative Structure and Growth of Economic Activity in Eastern Europe", in this volume, Tables 10 and 13.

<sup>13</sup> Milton Gilbert and Associates, "Comparative National Products and Price Levels," Paris, OEEC, 1953.

ministries of defense in these countries. No attempt was made in this study to measure the defense effort of the East European countries more comprehensively along the lines of the definitions and coverage in usage in Western countries, particularly in the United States. Only a token adjustment in the direction of more comprehensive coverage was made by a small, very roughly estimated allowance from the state budget for science and technology that we assigned to military research and development in Czechoslovakia, East Germany, and Poland. These three countries are known to be developing and producing certain up-to-date armaments for the Warsaw Pact countries. Beyond this small R&D allowance, no attempt has been made to include here various military and military-related expenditures known to be financed outside the defense budgets proper, and not identified explicitly as part of the defense outlays in the official statistics of these countries. More specifically, the omitted items of military character financed partly or fully by ministries and agencies other than the ministry of defense in East European countries include:

1. Certain military units, such as border guards, security troops, construction troops, and transport troops, that may be financed partly or fully from the budgets of the ministries of internal affairs, ministries of security, ministries of construction, ministries of transport, or some agency other than the defense ministry.

2. Paid leaves to reservists while on military exercises, which are as a rule financed by the reservists' civilian employers from their own funds.

3. Severance pay to conscripts for several weeks at the beginning of their military service, financed by their civilian employers.

4. Costs of travel of conscripts and reservists to and from the place of military service, exercises or training, which may be borne by the transport ministry or local governments.

5. Costs of premilitary training, which is heavily stressed in all the East European countries, and may be borne partly or fully by the education ministries or local governments.

6. Costs of the transportation of troops and military equipment and the cost of communications for armed forces, which may be partly borne or subsidized by the ministries of transport and communications.

7. All or a part of the costs of civilian employees and supporting personnel in the military establishment, which may be financed from the budgets of agencies of the central administration other than the defense ministry proper.

8. Costs of support to soldiers' families, which may be financed partly or fully from the budgets of the ministries of social welfare or local governments.

9. Costs of pensions and disability pay for military personnel, which in many instances may be borne partly or fully by the ministries of social welfare, local governments, and former civilian employers of the soldiers, rather than by the defense ministry.

10. There is some evidence that certain military investment may be financed partly or fully by the respective ministry of construction or other economic ministries or industrial associations.

11. The cost of some of the military armament procurement for national defense may be partly or fully absorbed by the appropriate production association or ministry and ultimately settled through

transfers at the association level or by subsidies from the non-defense part of the state budget.

12. Imports of military end items may be financed partly or fully through the ministry of foreign trade price equalization funds or by other channels of financing and not directly from the budget of the ministry of defense.

13. There are direct references in official gazettes and collections of laws of East European countries concerning the pricing and price regulations that state that the purchases of the ministry of defense are not subject to the general regulations and that the defense ministry can set its procurement prices directly or by a different set of regulations. The implication of this differential pricing procedure is that the prices which the ministry of defense pays may be far below the costs incurred by the production enterprises. Differences between production costs and the prices paid by the military may be covered by subsidies from non-defense agencies in the state budget. The value of production and price subsidies channeled from the state budget to production associations and enterprises is very large in East European countries. Such subsidies could cover a substantial part of the cost of military procurement, and this would not be shown in the published budget expenditures of the ministry of defense.

The above indicated items, which are either definitely known to be excluded from the official published defense budgets or which are believed very probably to be in fact so excluded do not exhaust the possibilities. However, they illustrate a broad range of military-related expenditures that are or may be financed outside of the regularly published defense budget. If these expenditures are added together, their sum could be very large. To illustrate the order of magnitude which may be at stake, let us assume that the prices paid by a ministry of defense for all its purchases are about one-third below the cost of production. Since the nonpersonnel costs and subsistence valued in national currencies account for about 90 percent or more of the officially given defense budgets of most East European countries, this would require a 45 percent increase in the present defense budgets to enable the ministries of defense to pay the full cost of their purchases and meet also the present level of military cash pay. It may well be that the ministries of defense purchase many items at even lower prices than our assumed one-third discount.

We are not at present in a position to calculate the order of magnitude of the above enumerated items that should be included in the defense expenditures of the East European countries in order to make their defense outlays comparable with those of Western countries and the United States, in particular, and we refrain from speculation on the magnitude of such outlays. To provide good estimates of the more important military expenditures not included in the official East European defense budget would require a substantial and sustained research effort. Such an undertaking would examine in detail the intricacies of fiscal and other financial flows of the economies of Eastern Europe. Eventually it should place the comprehensive military outlays of Eastern Europe in proper perspective. The outcome of such an inquiry should be of paramount interest to United States policy makers and serve as background for ongoing negotiations on arms limitations and disarmament.

Research upon the complex problem of the extent of military expenditures and their channels of finance in Eastern Europe is a desirable task for the future. We would hope to be able to improve upon the work presented here. In the meantime, the present paper provides a general picture of the extent, allocation, and trends of defense expenditures in national currencies and in U.S. dollars based on the narrow definition and incomplete coverage of the official defense budgets of the East European countries. This limited approach provides only a sharply circumscribed impression of the military expenditures of these countries.

The military effort of the six East European countries covered in this study is indeed substantial: their number of regular active, well disciplined forces amounts to more than one-half of that of the United States. Even in terms of the narrowly defined official defense budgets, the military expenditures of the six East European countries as a group amount to about one-fifth of the total defense outlays of the United States in terms of U.S. dollars.<sup>14</sup>

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COMPARATIVE GROWTH AND LEVELS OF AGRICULTURAL  
OUTPUT AND PRODUCTIVITY IN EASTERN EUROPE,  
1965-76

BY GREGOR LAZARCİK \*

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## I. INTRODUCTION

During the last decade, the agricultural sectors in the East European countries have made significant progress. A series of economic reforms designed to increase incentives and efficiency, during the second half of the 1960's, resulted in an accelerated increase in the real income of the population. Increasing real incomes, in turn, brought rapidly rising demand for more and better quality foods of animal origin in the 1970's. In some of the East European countries, the domestic food supply did not keep pace with the growing demand.

In order better to satisfy the rising demand for high protein foods, the East European countries have taken a series of important decisions with regard to agriculture over the course of the last ten years. The results of these may be outlined as follows: (1) imports of feed grain, oilcake, fish meal and other high protein feed for livestock have increased sharply since the second half of the 1960's,<sup>1</sup> (2) an expansion of domestic production of high yield varieties of feed grain, concentrates, and roughages has been implemented in varying degrees of intensity in all East European countries, (3) a continuously larger flow of inputs in the form of fertilizers, increased mechanization, improved feeding technology, higher yield livestock breeds, better crop varieties

<sup>1</sup> See U.S. Department of Agriculture, Economic Research Service, "The Agricultural Situation in Eastern Europe," 1976, pp. 8-9.

may be observed, and the general improvement of agricultural technology has been receiving greater attention, (4) as part of broader economic reforms, a series of incentives to increase farmers' productivity have been continued in the form of higher prices for agricultural products, stimulation of personal interest through profits, greater participation of individual farm workers in management of farms, substantial increases in fringe benefits, and other personal incentives designed to encourage rational use of resources and improve agricultural productivity.

In Poland and Yugoslavia, meanwhile, the ownership and management of farms continues overwhelmingly in private hands, organized in many small private family farm units. Only 18 and 15 percent of the agricultural land in Poland and Yugoslavia, respectively, is in state and collective farms.<sup>2</sup> Their governments have actively supported private farming, providing a variety of incentives to stimulate the expansion of farm output. Such policies, for example, in Poland during recent years, consisted of (1) government increases in prices paid to farmers for their products, (2) expansion of agricultural credits to private farmers on favorable terms, (3) increasing imports of feed-stuffs and protein meal, sold to private farmers to enhance output of meat and dairy products, (4) increasing mechanization of agriculture, (5) greatly expanding the use of fertilizers by private farmers, (6) encouraging specialization and interfarm cooperation in the use of machinery, (7) stepping up government agricultural research to increase farm productivity, and (8) above all, abstaining from forced collectivization of agriculture.

Basically, two agricultural systems continue to co-exist in Eastern Europe, the one consisting of the countries with predominantly socialized agricultures—Bulgaria, Czechoslovakia, East Germany, Hungary, and Romania—and the other consisting of the countries with predominantly private agriculture, Poland and Yugoslavia. Since in all cases, agriculture functions in the context of a Communist country under a more or less centrally planned economic system (Yugoslavia, of course, has undergone significant decentralization), there is a basis for taking a comparative approach between the two types of agricultural systems in Eastern Europe: socialized versus private.

In the following pages, the recent agricultural performance of Eastern Europe will be analyzed by country and by groups of countries (socialized versus private agricultural systems). Some comparisons will also be made with the USSR, West Germany, and the United States, in an attempt better to appraise the performance of recent years.

The aim of this basically statistical study is to present the measures and assess the changes in levels of agricultural development in the East European countries since 1965. Aspects to be covered are: (1) changes in the relative importance of agriculture in the national economy of each country, (2) changes in the growth and structure of basic output and input measures, (3) trends and levels of output per capita, (4) changes in productivity of land and labor in agriculture,

<sup>2</sup> See Poland, Główny urząd statystyczny, *Rocznik statystyczny*, 1976, Warsaw, 1976, p. 236, and Yugoslavia, Savezni zavod za statistiku, *Statistički godišnjak SFRJ*, 1976, Belgrade, 1976, p. 156.

(5) progress in agricultural technology and growth of investment, (6) comparisons of output between Eastern Europe, Western Europe, the USSR, and the USA, and (8) the outlook for the next few years.

## II. PLACE OF AGRICULTURE IN THE EAST EUROPEAN ECONOMIES

Agriculture has an important position in the national economies of Eastern Europe. Until the mid-1960s, agriculture was the largest economic sector in several of the East European countries, measured in terms of its share in total employment and its share in the gross national product. Both its employment and GNP shares, however, have been declining steadily in all countries in the whole postwar period.

In 1965, Bulgaria, and Yugoslavia had still about one-half of their labor force in agriculture (table 1). Poland with more than one-third and Hungary with over one-quarter of their labor forces in agriculture, were considered predominantly agricultural countries. Czechoslovakia and East Germany, meanwhile, had each less than one-fifth of their labor force in agriculture. They were already reasonably well industrialized countries.

TABLE 1.—AGRICULTURE'S SHARE IN PERCENT OF TOTAL LABOR FORCE AND GNP

	Labor force		GNP	
	1965	1976 <sup>1</sup>	1965	1976 <sup>1</sup>
Bulgaria.....	44.9	25.8	35.2	24.0
Czechoslovakia.....	19.5	13.5	17.6	15.8
East Germany.....	14.0	10.0	15.6	12.0
Hungary.....	27.2	19.7	25.2	20.9
Poland.....	38.1	29.5	29.0	17.3
Romania.....	57.4	35.8	41.4	29.4
Yugoslavia.....	49.7	34.9	25.5	20.5
Eastern Europe.....	37.2	26.0	25.3	18.7
U.S.S.R.....	35.4	25.6	21.5	15.7
United States.....	6.9	3.5	3.5	3.0

<sup>1</sup> Preliminary.

Sources: Eastern European countries: Labor force: Agricultural employment is in terms of yearly averages of midyear data of economically active persons in agriculture taken from statistical yearbooks of the respective countries. GNP: Calculated from Thad P. Alton, present volume. The shares were adjusted for forestry. Data for 1976 were estimated from 1975 and the plan fulfillment reports for 1976 reported by the statistical offices of the respective countries. U.S.S.R.: Labor force: M. Feshbach and S. Rapawy, "Soviet Population and Manpower Trends and Policies," Joint Economic Committee, Congress of the United States. Soviet Economy in a New Perspective, 1976, p. 132. GNP: Calculated from R. Greenslade, "The Real Gross National Product of the U.S.S.R., 1950-1975," *op. cit.*, pp. 271 and 284; for 1976 estimated from 1975 and the plan fulfillment report for 1976 reported by the Central Statistical Office in Moscow, January 1977. United States: "Statistical Abstract of the United States, 1976," U.S. Department of Commerce, 1976, pp. 356, 365 and 395, and "Survey of Current Business," 1977, No. 1, pp. 9 and S-13.

In terms of agriculture's contribution to GNP, the shares were lower than for employment because the productivity per active person in agriculture was lower than that in non-agricultural sectors. Eastern Europe as a whole and the USSR exhibited strongly agricultural characteristics when compared to the USA, which had less than seven percent of the labor force in agriculture and 3.5 percent of GNP in agriculture in 1965.

Because of rapid industrialization, the share of agricultural employment and, to a lesser degree, of agriculture's contribution to GNP has continued to fall over the last decade in all East European countries, as in the USSR. By 1976, except for Romania and Yugoslavia, in all East European countries, the share of agricultural labor had

declined to below one-third of the total. In Czechoslovakia, only 13.5 percent and in East Germany, 10 percent of total employment remains in agriculture. The share of agriculture's contribution to the total GNP decreased substantially in Bulgaria, Poland, and Romania, while in the remaining countries the decrease was small from 1965 to 1976. It is interesting to note that in 1976 the GNP share of agriculture was larger than that of employment in the total for Czechoslovakia, East Germany and Hungary. This suggests that the farmers' incomes in these countries are higher than in non-agricultural employment.<sup>2a</sup> In all countries, agriculture is still the second largest sector after industry. The trend of decline in agriculture's share in the total GNP in Eastern Europe has been similar to that in the USSR. Both Eastern Europe as a whole and the USSR have roughly one-fourth of their labor force in agriculture and generate less than one-fifth of GNP in agriculture, respectively. Compared with the USA, the relative importance of agriculture is five to six times larger in the East European and the Soviet economies.

### III. RECENT GROWTH AND STRUCTURE OF OUTPUT AND INPUTS

#### *A. Performance of Socialized Versus Private Agriculture*

The various measures of output and expenses for Eastern Europe as a whole and for two groups of countries—one with predominantly socialized agriculture, the other with overwhelmingly private agriculture—are given in tables 2 and 3 for the 1965–1976 period.<sup>3</sup> The data show the following results:

<sup>2a</sup> In Czechoslovakia for example, the average agricultural labor income was 5 percent higher than the average nonagricultural labor income in 1976. (Calculated from *Statistická ročenka 1976*, pp. 108, 122, 148–151, 340, and 342, and *Rude pravo*, January 27, 1977.)

<sup>3</sup> The measures of performance for earlier postwar years are given in G. Lazarcik, *Compendium*, 1974, pp. 328–329.

TABLE 2.—GROWTH OF AGRICULTURAL OUTPUT

	Indexes, 1965=100												Average annual rates of growth				
	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976 <sup>1</sup>	1965-70	1970-75	1965-75	1976	
<b>Bulgaria:</b>																	
Output.....	100	107.9	108.0	106.3	105.6	108.6	111.7	117.3	116.6	116.0	120.3	123.9	1.0	1.8	1.6	3.0	
Crops.....	100	112.2	105.3	102.0	103.7	102.9	102.3	112.1	110.6	101.5	101.0	104.0	-4.4	-4.4	0	3.0	
Animal products.....	100	101.5	112.0	112.7	108.6	117.1	125.8	125.0	125.5	137.7	149.3	153.8	2.9	4.3	3.6	3.0	
<b>Czechoslovakia:</b>																	
Output.....	100	110.6	111.6	114.2	117.4	123.9	123.6	129.3	134.1	137.8	138.3	136.3	3.7	2.6	3.1	-1.4	
Crops.....	100	124.2	118.5	120.9	123.8	126.1	114.8	120.2	123.6	125.8	124.3	117.7	3.4	.7	1.1	-5.3	
Animal products.....	100	104.0	108.3	111.0	114.3	122.8	127.9	133.7	139.2	143.7	145.0	145.5	3.9	3.5	4.1	1.0	
<b>East Germany:</b>																	
Output.....	100	104.2	109.5	111.7	107.3	109.5	111.0	117.6	120.7	128.0	128.6	123.1	1.6	3.7	2.3	-4.3	
Crops.....	100	101.2	114.1	110.4	95.9	103.4	100.2	107.5	105.4	111.0	113.0	99.2	-1.1	2.1	.7	-12.2	
Animal products.....	100	105.6	107.4	112.2	112.4	112.3	115.8	122.2	127.5	135.7	135.5	133.8	2.3	4.3	3.0	-1.3	
<b>Hungary:</b>																	
Output.....	100	107.8	117.0	117.4	124.0	112.6	128.5	134.3	142.6	149.0	145.7	143.0	2.9	5.3	3.8	-1.9	
Crops.....	100	111.2	129.5	124.6	144.4	106.1	125.8	139.9	156.1	148.2	147.2	142.7	3.0	6.5	3.5	-3.1	
Animal products.....	100	105.1	107.4	111.9	108.3	117.5	129.7	129.9	132.2	149.6	144.6	143.2	2.7	4.3	4.0	-1.0	
<b>Poland:</b>																	
Output.....	100	103.6	105.3	113.1	109.0	110.3	113.8	121.9	131.6	135.9	132.9	131.8	2.1	4.5	3.1	-1.8	
Crops.....	100	101.0	105.1	117.8	106.1	113.1	111.7	117.0	125.1	122.3	124.7	135.9	2.5	2.4	2.2	9.0	
Animal products.....	100	105.7	105.5	109.4	112.8	108.2	115.4	225.7	136.6	146.3	139.1	128.7	1.8	6.0	3.7	-7.5	
<b>Romania:</b>																	
Output.....	100	114.6	119.6	116.3	117.9	108.1	123.8	135.9	144.3	140.7	146.9	168.4	1.3	5.8	3.4	14.6	
Crops.....	100	116.3	117.9	115.7	119.2	95.2	114.3	121.5	127.3	120.1	123.3	156.1	-5.5	4.3	1.3	26.6	
Animal products.....	100	112.5	121.6	125.7	116.2	123.9	135.4	153.6	165.2	165.8	175.8	183.4	3.3	7.2	5.6	4.3	
<b>Yugoslavia:</b>																	
Output.....	100	114.1	115.0	111.7	123.8	113.6	121.5	119.2	128.3	137.6	135.1	144.3	2.5	3.8	2.5	6.8	
Crops.....	100	125.8	121.6	116.7	139.6	109.0	122.3	115.6	126.7	128.4	124.1	136.5	2.0	2.6	1.0	10.0	
Animal products.....	100	102.1	108.2	106.4	107.4	118.3	120.7	123.0	130.0	147.2	146.4	152.2	2.8	5.0	4.0	4.0	
<b>Countries with socialized agriculture:<sup>2</sup></b>																	
Output.....	100	109.0	113.9	113.4	113.6	112.5	119.4	126.9	131.9	134.6	136.3	139.7	2.0	4.0	2.9	2.5	
Crops.....	100	112.9	117.9	114.1	115.3	105.1	111.4	120.0	124.3	120.2	121.0	127.1	.8	2.8	1.3	5.0	
Animal products.....	100	106.0	110.7	112.8	112.4	118.3	125.6	132.2	137.7	145.7	148.2	149.3	3.0	4.7	4.0	.7	
<b>Countries with private agriculture:<sup>3</sup></b>																	
Output.....	100	106.9	108.4	112.6	114.3	111.3	116.2	121.1	130.6	136.4	133.6	135.7	2.2	4.3	3.0	1.6	
Crops.....	100	109.6	110.8	117.4	117.8	111.6	115.4	116.5	125.7	124.4	124.5	136.1	2.4	2.5	1.8	9.3	
Animal products.....	100	104.7	106.3	108.5	111.3	111.1	116.9	124.9	134.7	146.6	141.2	135.4	2.1	5.7	3.8	-4.1	
<b>Total, Eastern Europe:</b>																	
Output.....	100	108.1	111.4	113.1	113.9	112.0	118.0	124.3	131.3	135.6	135.1	137.9	2.1	4.1	2.9	2.1	
Crops.....	100	111.4	114.7	115.6	109.4	108.0	113.2	118.4	124.9	122.1	122.5	131.1	1.0	2.6	1.6	7.0	
Animal products.....	100	105.4	108.8	111.0	111.9	115.2	121.9	129.1	136.4	146.0	145.2	143.4	2.6	5.1	3.9	-1.2	

<sup>1</sup> Preliminary.<sup>2</sup> Bulgaria, Czechoslovakia, East Germany, Hungary, and Romania.<sup>3</sup> Poland and Yugoslavia.

Sources: See appendix A. Indexes were calculated from physical quantities weighted by FAO Eastern European and Soviet Union wheat-based price relatives for 1961-65.

TABLE 3.—GROWTH OF OPERATING EXPENSES INCLUDING DEPRECIATION, GROSS PRODUCT, AND NET PRODUCT OF AGRICULTURE

	Indexes, 1965=100											Average annual rates of growth				
	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976 <sup>1</sup>	1965-70	1970-75	1965-75	1976
<b>Bulgaria:</b>																
Expenses.....	100	115.6	123.8	143.6	142.2	144.6	165.4	162.3	157.7	182.4	157.9	182.0	7.8	2.0	4.9	15.3
Gross product.....	100	105.5	103.5	96.5	96.5	100.1	98.4	106.9	108.0	100.9	113.6	112.7	-9	2.1	.7	-3
Net product.....	100	105.5	103.1	94.8	94.3	97.5	95.1	103.3	103.9	95.5	108.7	106.0	-1.6	1.6	.2	-2.5
<b>Czechoslovakia:</b>																
Expenses.....	100	104.7	103.1	104.9	112.5	136.1	132.6	140.8	147.1	152.0	157.0	157.4	5.2	3.4	5.2	.3
Gross product.....	100	114.3	118.1	121.6	121.5	111.5	115.1	118.9	122.8	126.0	123.0	120.1	2.2	2.3	1.3	-2.4
Net product.....	100	117.1	120.9	124.5	122.7	110.4	113.8	116.8	119.9	122.4	117.7	113.2	1.9	1.6	.7	-3.8
<b>East Germany:</b>																
Expenses.....	100	104.7	107.9	112.7	114.5	134.2	151.3	146.0	158.2	171.5	178.0	181.4	5.2	5.5	6.4	1.9
Gross product.....	100	104.2	110.4	111.9	105.8	101.8	97.4	109.8	109.9	115.4	114.3	106.2	.4	3.2	.9	-7.1
Net product.....	100	104.0	110.2	111.3	104.1	98.8	93.5	105.3	104.4	109.2	107.0	97.7	-1	2.5	.1	-8.7
<b>Hungary:</b>																
Expenses.....	100	98.7	106.2	122.7	130.1	145.3	174.1	185.5	191.9	225.0	216.6	221.5	8.5	8.3	9.6	2.3
Gross product.....	100	110.4	120.1	115.0	121.7	101.4	112.3	116.0	126.2	123.5	123.2	118.9	.9	3.9	1.4	-3.5
Net product.....	100	111.8	121.5	115.2	121.5	98.8	109.3	112.8	122.0	117.1	115.9	110.0	.4	3.1	.7	-5.1
<b>Poland:</b>																
Expenses.....	100	90.3	99.5	110.3	153.0	145.7	139.5	153.7	178.6	201.6	213.5	214.1	10.7	9.5	8.9	.3
Gross product.....	100	108.7	107.6	114.1	94.8	98.4	105.8	111.4	115.1	112.7	104.8	103.8	-1.2	1.5	.6	-1.0
Net product.....	100	109.0	107.7	114.2	92.5	96.0	103.4	109.0	112.6	109.3	100.2	98.5	-1.8	1.2	.2	-1.7
<b>Romania:</b>																
Expenses.....	100	111.7	128.1	137.7	150.5	155.6	165.6	189.6	235.6	233.1	256.9	310.7	9.5	11.3	9.7	20.9
Gross product.....	100	114.5	116.1	109.6	108.6	95.6	113.1	121.3	116.4	113.2	113.5	122.3	-1.3	2.4	.8	7.8
Net product.....	100	115.7	116.4	108.2	105.5	90.1	107.9	115.7	109.8	105.8	105.3	114.6	-2.5	1.9	-1	8.8
<b>Yugoslavia:</b>																
Expenses.....	100	115.8	108.5	100.2	112.6	110.4	113.8	108.6	111.2	125.2	131.3	142.6	1.0	3.4	1.8	8.6
Gross product.....	100	113.8	116.1	113.6	125.7	114.1	123.0	121.3	131.1	139.8	136.1	144.9	2.7	3.9	2.6	6.5
Net product.....	100	113.8	116.1	113.6	125.7	114.1	122.8	121.1	131.3	139.8	135.7	144.5	2.7	3.9	2.6	6.5
<b>Countries with socialized agriculture:</b>																
Expenses.....	100	106.3	113.6	120.3	125.5	144.5	153.6	161.0	175.2	187.3	191.0	205.9	7.1	6.1	7.1	7.8
Gross product.....	100	109.6	113.5	110.8	109.6	100.4	106.8	114.7	116.0	115.4	116.8	115.6	0	2.9	1.0	-1.0
Net product.....	100	110.3	114.0	110.1	107.9	97.1	102.9	110.4	110.9	109.1	109.9	107.6	-7	2.3	-2	-2.1
<b>Countries with private agriculture:</b>																
Expenses.....	100	95.1	101.3	108.4	145.4	139.1	134.7	145.3	166.0	187.3	198.1	200.7	8.9	8.6	7.7	1.3
Gross product.....	100	110.5	110.6	113.9	105.4	103.8	111.8	114.7	120.7	122.1	115.6	118.0	2.1	2.5	1.3	2.1
Net product.....	100	110.7	110.6	114.0	104.2	102.4	110.7	113.3	119.2	120.1	112.8	114.8	-1	2.3	1.1	1.8
<b>Total, Eastern Europe:</b>																
Expenses.....	100	102.2	107.3	115.9	132.8	142.5	146.7	155.2	171.8	187.3	193.6	204.0	7.8	7.0	7.4	5.4
Gross product.....	100	110.0	112.2	112.2	107.7	102.0	109.0	114.7	118.1	118.4	116.3	116.7	.1	2.7	1.2	.3
Net product.....	100	110.5	112.4	111.9	106.2	99.6	106.3	111.7	114.8	114.2	111.3	111.0	-4	2.3	.7	-3

<sup>1</sup> Preliminary.

Source: See app. A.

(1) The overall performance of countries with private agriculture, which was distinctly superior to that of countries with socialized agriculture in the earlier postwar period, has continued to be superior up to the present, albeit to a more moderate degree. Between 1965 and 1976, the former groups surpassed the latter by several percentage points in crop output, and gross and net product of agriculture. The group of countries with socialized agricultures did better in animal output.

(2) Within agricultural output, both groups of countries achieved higher rates of growth in animal products than in output of crops. The countries with socialized agriculture experienced slightly higher average annual rates of growth<sup>4</sup> of animal products in the whole ten-year period than the other group. However, for 1971-75, the rate of increase was higher for the countries with private agriculture (table 2).

(3) Inputs into agriculture from other sectors continued to increase sharply due to rapid mechanization and better technology on farms. Both groups of countries about doubled current operating expenses and depreciation from 1965 to 1976. During this period, the average annual rate of growth in expenses was higher than in the earlier postwar period for the private agricultures, which have stepped up their mechanization in the last decade.

(4) Because of rapidly increasing expenses and depreciation, the gross and net products grew at much slower rates than output for both groups. Both groups of countries had higher annual rates of increase in the 1971-75 period than in the 1965-70 period. The countries with private agriculture, however, experienced higher rates of growth in their gross and net products than the countries with socialized agriculture over the 1965-76 period taken as a whole.

### *B. Performance of Individual Countries*

From 1965 to 1976, the greatest increase in agricultural output was achieved by Romania with an increase of 68 percent, followed by Yugoslavia and Hungary with 44 and 43 percent, respectively. East Germany and Bulgaria had the lowest increases in output, 23 and 24 percent, respectively, while Poland and Czechoslovakia are in the middle with 32 and 36 percent, respectively. Over the period as a whole, the output of animal products grew at a higher annual rate than output of crops in all countries except Hungary, and Poland for 1965-70. However, in the 1970-75 period the output of animal products grew much faster than in 1965-70 in all countries except Czechoslovakia. In the last seven years, all the East European countries put heavy emphasis on rapid increases in meats, eggs, and milk output in order to improve the quality of national diet.

The most spectacular rise in inputs from other sectors occurred in Romania, with a three-fold increase, followed by Hungary and Poland with more than two-fold increase, Bulgaria and East Germany with an almost two-fold increase, and Czechoslovakia and Yugoslavia with only 57 and 43 percent increases, respectively, from 1965 to 1976. Yugoslavia, although belonging to the group of countries with underdeveloped agriculture, had the lowest rise in inputs.

<sup>4</sup> All average annual rates of growth in this study are calculated as the rates given by least squares fitting of the growth equation  $I_n = I_0 (1+r)^n$  to the indexes.

Since inputs are subtracted from output to get the gross and net products of agriculture, the higher cost increases in relation to increases in output are reflected in more sluggish rates of growth in gross and net product. In fact, the net product of agriculture grew at a less than one percent average annual rate of growth in all countries except Yugoslavia and countries with private agriculture from 1965 to 1976. There was, however, a better performance in the 1970-75 period for both gross and net products in all countries. The interrelationship of total output, inputs, and gross and net product, which can be readily followed country by country in tables 2 and 3, seems to reveal a less efficient use of inputs in Bulgaria, Romania, Poland, and East Germany in the 1965-70 period. However, the incentives given to Hungarian collective farmers through a share-cropping system in the regions with specialized agriculture and favorable treatment of Yugoslav private farmers brought favorable results over the whole period.

### *C. Changes in Structure of Output and Inputs*

It may be useful to review the structural changes of Eastern European agriculture over time. Such changes are shown in table 4 in terms of percentages of output and may be summarized as follows: Since the share of animal products increased in all countries over the period, the efficiency of the transformation of intermediate produce into animal products probably increased; but increased imports of feed in recent years<sup>5</sup> also contributed to the relatively fast expanding output of animal products compared to that of crops. The share of animal products in total output in 1971-75 was from 55 to 73 percent in the more industrialized countries: Czechoslovakia, East Germany, Hungary and Poland, while in the developing countries of Southern Europe: Bulgaria, Yugoslavia, and Romania it was around one half, between 46 and 52 percent. In all countries except Yugoslavia the share of expenses and depreciation increased compared to 1966-70 shares; correspondingly the share of gross and net product declined.

<sup>5</sup> U.S. Dept. of Agriculture, "Agricultural Situation in Eastern Europe," ERS-Foreign, No. 117, 1976, pp. 8-9, and "The Feed-Livestock Economy of Eastern Europe; Prospects to 1980," ERS, Foreign Agricultural Economic Report No. 90, 1973, p. 99.

TABLE 4.—PERCENTAGE DISTRIBUTION OF OUTPUT, EXPENSES AND DEPRECIATION, GROSS PRODUCT, AND NET PRODUCT IN AGRICULTURE

[Output of agriculture=100]

Area and period	Output of agriculture			Expenses and depreciation	Gross product	Net product
	Total	Crops	Animal products			
Bulgaria:						
1966-70.....	100	59	41	30	92	70
1971-75.....	100	54	46	34	74	66
Czechoslovakia:						
1966-70.....	100	35	65	51	62	49
1971-75.....	100	30	70	57	56	43
East Germany:						
1966-70.....	100	30	70	32	76	68
1971-75.....	100	27	73	40	70	60
Hungary:						
1966-70.....	100	46	54	31	76	69
1971-75.....	100	45	55	42	67	58
Poland:						
1966-70.....	100	43	57	32	75	68
1971-75.....	100	41	59	40	67	60
Romania:						
1966-70.....	100	54	46	33	78	67
1971-75.....	100	48	52	43	69	57
Yugoslavia:						
1966-70.....	100	54	46	14	90	86
1971-75.....	100	49	51	13	91	87
Countries with socialized agriculture:						
1966-70.....	100	44	56	35	74	65
1971-75.....	100	40	60	44	67	56
Countries with private agriculture:						
1966-70.....	100	47	53	26	80	74
1971-75.....	100	43	57	32	74	68
Total, Eastern Europe:						
1966-70.....	100	45	55	31	76	69
1971-75.....	100	41	59	38	70	62

Sources: Output was calculated from physical quantities weighted by FAO East European and Soviet Union wheat-based price relatives for 1961-65. All other items were calculated from output and percentage distribution of these items given in national currencies (see app. A).

The East European countries with socialized agriculture are almost as dependent on inputs from other sectors as Northwestern Europe. However, these greatly increased outside resources have brought no more favorable results for socialized agriculture in Eastern Europe than they have for privately operated agriculture in Western Europe.

#### *D. Contribution of Individual Countries to the Total Output and Inputs of Eastern Europe*

The relative importance of each country as a supplier of agricultural output is shown in table 5. Bulgaria, the smallest country, supplied only about 7.8 percent of the agricultural output of Eastern Europe in 1971-75, and her importance as a supplier decreased somewhat from 1966-70 to 1971-75. In ascending order of importance came Hungary (10.6 percent), Czechoslovakia (10.8 percent), Yugoslavia, Romania, and East Germany (close to 14 percent each), and Poland, the largest supplier, accounting for 29.7 percent of the total output. The importance of Bulgaria, East Germany and Yugoslavia has declined. The share of crops increased for Hungary, Poland and Romania from 1966-70 to 1971-75. The share of animal output increased for Romania and decreased for East Germany.

TABLE 5.—PERCENTAGE CONTRIBUTION OF INDIVIDUAL COUNTRIES TO OUTPUT, EXPENSES AND DEPRECIATION, GROSS PRODUCT, AND NET PRODUCT IN AGRICULTURE

[Eastern Europe=100]

Country	Agricultural output		Crop output		Animal output		Expenses and depreciation		Gross product		Net product	
	1966-70	1971-75	1966-70	1971-75	1966-70	1971-75	1966-70	1971-75	1966-70	1971-75	1966-70	1971-75
Bulgaria.....	8.3	7.8	10.9	10.2	6.2	6.1	7.9	6.8	8.3	8.3	8.5	8.4
Czechoslovakia.....	10.8	10.8	8.4	7.8	12.9	12.9	17.7	16.2	8.8	8.6	7.8	7.5
East Germany.....	13.9	13.5	9.2	8.9	17.7	16.7	14.3	14.1	13.9	13.4	13.7	13.0
Hungary.....	10.1	10.6	10.3	11.4	9.9	10.0	9.9	11.5	10.0	10.0	10.1	10.0
Poland.....	29.2	29.7	28.1	29.3	30.1	30.0	29.8	31.0	28.5	28.3	28.9	28.9
Romania.....	13.5	14.0	16.1	16.3	11.3	12.4	14.1	15.6	13.7	13.8	13.2	13.0
Yugoslavia.....	14.2	13.6	17.0	16.1	11.9	11.9	6.3	4.8	16.8	17.6	17.8	19.2
Countries with socialized agriculture.....	56.6	56.7	54.9	54.6	58.0	58.1	64.0	64.2	54.7	54.1	53.3	51.9
Countries with private agriculture.....	43.4	43.3	45.1	45.4	42.0	41.9	36.0	35.8	45.3	45.9	46.7	48.1
Total, Eastern Europe.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Sources: Output was calculated from physical quantities weighted by Eastern European and Soviet Union wheat-based price relatives for 1961-65. Expenses and depreciation, gross and net product were calculated from output and percentage distribution of these items given in national currencies (see app. A).

The share in total expenses increased for Hungary, Poland and Romania in the second period. The share of expenses for the countries with private agriculture declined somewhat from 1966-70 to 1971-75.

In terms of gross and net product, the shares in the total for Eastern Europe of Czechoslovakia and East Germany decreased from 1966-70 to 1971-75. At the same time the corresponding share of Yugoslavia increased. Other countries held their own.

#### IV. PER CAPITA TRENDS AND LEVELS OF OUTPUT

##### A. *Per Capita Output*

Trends in per capita output express better than absolute figures the quantitative improvement in the supply of agricultural products and changes in levels of self-sufficiency in domestically produced food. Tables 6 to 8 show the trends from 1965 to 1976 in agricultural output measures in relation to population for individual countries, groups of countries, and for Eastern Europe as a whole.

In general, the per capita trends are similar to the total performance measures except that the rates of change are slowed down by increases in population (table 6). Because of rapid population growth in Poland and Yugoslavia, their combined average annual rate of growth in agricultural output per capita was 2.1 percent (1.0 percent for crops, 3.0 percent for animal products) from 1965 to 1975, while for the countries with socialized agriculture the overall rate was 2.3 percent.

The behavior of output per capita for individual countries is summarized in table 6. Hungary and Czechoslovakia experienced the highest annual rates of growth of per capita output, 3.4 and 2.7 percent respectively, followed by East Germany and Poland with a 2.4 percent annual rate of growth for each, while Romania and Yugoslavia had more modest 2.2 and 1.5 percent annual rates. Bulgarian per capita annual rates were the lowest because her population grew relatively rapidly, as did that of Poland, Romania and Yugoslavia. In all countries, per capita output of animal products increased at a higher annual rate than that of crops, in line with the effort to improve protein content in national diets, particularly in the last 7-8 years.

The trend in per capita inputs exhibited an ascending pattern similar to that of total inputs in all the countries under study. Gross and net product per capita, however, was declining in the first period in most countries, but they were increasing in the second period in all countries (table 7). It should be noted that in East Germany the population has been declining since 1967, which favorably affected the per capita measures.<sup>6</sup>

##### B. *Per Capita Levels of Output*

Table 8 shows per capita comparisons of levels of output, and gross and net product in agriculture in relation to the East European level, for individual countries and groups of countries in selected periods. These findings show that the per capita level of agricultural output was lower in Czechoslovakia, Romania and Yugoslavia than the average level for Eastern Europe, while Bulgaria, Hungary and Poland were significantly above that level.

<sup>6</sup> Germany (Democratic Republic). Staatliche Zentralverwaltung für Statistik. *Statistisches Jahrbuch der Deutschen Demokratischen Republik, 1976*, Berlin, 1976, p. 1.

TABLE 6.—PER CAPITA GROWTH OF AGRICULTURAL OUTPUT

	Indexes, 1965=100											Average annual rates of growth				
	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976 <sup>1</sup>	1965-70	1970-75	1965-75	1976 <sup>1</sup>
<b>Bulgaria:</b>																
Output.....	100	107.2	106.6	104.2	102.7	104.9	107.3	112.2	110.9	109.6	113.1	116.0	0.3	1.2	0.9	2.6
Crops.....	100	111.4	103.9	100.0	100.8	99.4	98.3	107.2	105.2	95.9	95.0	97.4	-1.0	-0.9	-0.6	2.5
Animal products.....	100	100.8	110.5	110.4	105.6	113.1	120.9	119.5	119.4	130.1	140.4	144.0	2.2	3.8	3.0	2.6
<b>Czechoslovakia:</b>																
Output.....	100	110.0	110.5	112.6	115.3	122.4	121.5	126.6	130.4	132.8	132.3	129.4	3.4	2.0	2.7	-2.2
Crops.....	100	123.5	117.3	119.2	121.6	124.6	112.9	117.7	120.2	121.3	118.9	111.7	3.1	0	0.7	-6.1
Animal products.....	100	103.4	107.2	109.4	112.3	121.3	125.8	130.9	135.4	138.5	138.7	138.1	3.6	2.9	3.7	-4
<b>East Germany:</b>																
Output.....	100	104.0	109.1	111.3	106.9	109.3	110.7	117.4	121.0	128.7	129.9	124.8	1.6	3.9	2.4	-3.9
Crops.....	100	101.0	113.7	110.0	95.6	103.2	100.0	107.3	105.7	111.6	114.1	100.5	-1.1	2.4	0.8	-11.9
Animal products.....	100	105.4	107.0	111.8	112.0	112.1	115.5	122.0	127.8	136.5	136.9	135.6	2.3	4.5	3.1	-1.0
<b>Hungary:</b>																
Output.....	100	107.5	116.2	116.2	122.2	110.5	125.8	131.1	138.7	144.3	140.3	136.9	2.6	4.9	3.4	-2.4
Crops.....	100	110.9	128.6	123.3	142.3	104.2	124.1	136.5	151.8	143.5	141.7	136.6	2.6	6.1	3.1	-3.6
Animal products.....	100	104.8	106.7	110.7	106.7	115.3	127.0	126.8	128.6	144.9	139.2	137.1	2.3	3.9	3.7	-1.5
<b>Poland:</b>																
Output.....	100	102.9	103.8	110.3	106.3	106.8	109.3	116.1	124.2	127.0	124.2	120.9	1.4	3.7	2.4	-2.7
Crops.....	100	100.4	103.6	114.8	102.7	109.5	107.2	111.4	118.1	114.3	116.6	124.6	1.8	1.6	1.5	6.9
Animal products.....	100	105.0	104.0	106.7	109.1	104.8	110.8	119.7	129.0	136.8	130.0	118.0	1.1	5.2	3.0	-9.2
<b>Romania:</b>																
Output.....	100	113.9	118.0	112.2	112.1	101.6	115.1	125.1	131.8	127.3	131.6	149.3	-1	4.8	2.2	13.4
Crops.....	100	115.6	116.3	111.6	113.3	89.4	106.2	111.9	116.3	108.7	110.4	138.4	-1.9	3.4	0.2	25.4
Animal products.....	100	111.8	120.0	112.9	110.5	116.4	125.9	141.4	150.9	150.0	157.4	162.6	1.9	6.2	4.4	3.3
<b>Yugoslavia:</b>																
Output.....	100	112.9	112.6	108.3	119.0	108.4	114.7	111.5	119.0	126.4	122.9	130.1	1.5	2.9	1.5	5.9
Crops.....	100	124.4	119.1	113.2	134.2	104.0	113.5	108.1	117.5	117.9	112.9	123.1	1.1	1.6	1.1	9.0
Animal products.....	100	101.0	106.0	103.2	103.3	112.9	114.0	115.1	120.6	135.2	133.2	137.2	1.9	4.0	3.0	3.0
<b>Countries with socialized agriculture:</b>																
Output.....	100	108.5	112.9	111.4	110.9	109.4	115.6	122.3	126.6	128.6	129.4	132.2	1.4	3.5	2.3	2.2
Crops.....	100	112.3	116.8	112.1	112.6	102.2	115.6	107.8	119.3	114.8	114.9	120.2	2	2.3	0.8	4.6
Animal products.....	100	105.5	109.7	110.8	109.8	115.1	121.6	127.4	132.1	139.2	140.7	141.2	2.4	4.2	3.5	4
<b>Countries with private agriculture:</b>																
Output.....	100	106.1	106.6	109.5	110.3	107.1	110.9	114.6	122.4	126.6	122.9	123.7	1.4	3.3	2.1	0.7
Crops.....	100	108.7	108.9	114.2	113.7	107.4	110.1	110.2	117.8	115.5	114.5	124.1	1.6	1.5	1.0	8.4
Animal products.....	100	103.9	104.5	105.5	107.4	106.9	111.5	118.2	126.2	136.1	129.9	123.4	1.3	4.8	3.0	-5.0
<b>Total, Eastern Europe:</b>																
Output.....	100	107.5	110.0	110.7	110.7	108.4	113.5	118.8	124.8	127.9	126.6	128.4	1.4	3.4	2.2	1.4
Crops.....	100	110.7	113.2	113.1	106.3	104.5	108.8	113.2	118.7	115.2	114.8	122.1	0.3	2.0	0.9	6.4
Animal products.....	100	104.8	107.4	108.6	108.7	111.5	117.2	123.4	129.7	137.7	136.1	133.5	1.9	4.5	3.3	-1.9

<sup>1</sup> Preliminary.

Sources: Data in table 2 divided by population data taken from statistical yearbooks of the respective countries (see app. A).

TABLE 7.—PER CAPITA GROWTH OF GROSS AND NET PRODUCT IN AGRICULTURE

	Indexes, 1965=100											Average annual rates of growth				
	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976 <sup>1</sup>	1965-70	1970-75	1965-75	1976 <sup>1</sup>
Bulgaria:																
Gross product.....	100	104.8	102.1	94.6	93.8	96.7	94.5	102.2	102.7	95.4	106.8	105.5	-1.6	1.5	0.1	-1.2
Net product.....	100	104.8	101.7	92.9	91.7	94.2	91.4	98.8	98.8	90.2	102.2	99.2	-2.2	1.1	-0.4	-2.9
Czechoslovakia:																
Gross product.....	100	113.7	116.9	119.9	119.3	110.1	113.2	116.4	119.4	121.5	117.7	114.0	1.9	1.6	.9	-3.1
Net product.....	100	116.4	119.7	122.7	120.5	109.0	111.9	114.3	116.6	118.0	112.6	107.5	1.6	1.0	.3	-4.5
East Germany:																
Gross product.....	100	104.0	110.0	111.5	105.5	101.6	97.2	109.6	110.2	116.0	115.5	107.6	.4	3.4	1.0	-6.8
Net product.....	100	103.8	109.8	110.9	103.8	98.6	93.3	105.2	104.7	109.8	108.1	99.0	-2	2.7	.2	-8.4
Hungary:																
Gross product.....	100	110.1	119.3	113.8	119.9	93.5	109.9	113.2	122.8	119.6	118.6	113.8	.5	3.5	1.1	-4.0
Net product.....	100	111.5	120.7	114.0	119.7	97.0	107.0	110.1	118.7	113.4	111.6	105.3	0	2.8	.4	-5.6
Poland:																
Gross product.....	100	108.0	106.1	111.2	91.7	95.3	101.6	106.1	108.7	105.4	97.0	95.2	-1.9	.6	-2	-1.9
Net product.....	100	108.3	106.2	111.3	89.5	93.0	99.3	103.8	106.3	102.2	92.8	90.3	-2.5	.3	-6	-2.7
Romania:																
Gross product.....	100	113.8	114.5	105.7	103.3	89.8	105.1	111.7	106.3	102.4	101.6	108.4	-2.6	1.4	-4	6.7
Net product.....	100	115.0	114.8	104.4	100.3	84.6	100.3	106.5	100.3	95.7	94.3	101.6	-3.8	1.0	-1.3	7.7
Yugoslavia:																
Gross product.....	100	112.6	113.7	110.2	120.9	108.9	116.1	113.5	121.6	128.4	123.8	130.7	1.8	2.9	1.7	5.6
Net product.....	100	112.6	113.7	110.2	120.9	108.9	116.0	113.3	121.8	128.4	123.5	130.3	1.8	2.9	1.7	5.5
Countries with socialized agriculture:																
Gross product.....	100	109.1	112.5	108.8	107.0	97.7	103.4	110.5	111.3	110.2	110.9	109.4	-6	2.4	.5	-1.4
Net product.....	100	109.8	113.0	108.2	105.4	94.5	99.6	106.4	106.4	104.2	104.4	101.8	-1.3	1.8	-2	-2.5
Countries with private agriculture:																
Gross product.....	100	109.6	108.8	110.8	101.7	99.9	106.7	108.5	96.3	113.4	106.3	107.6	-6	1.1	.1	1.2
Net product.....	100	109.8	108.8	110.9	100.6	98.6	105.6	107.2	111.7	111.5	103.8	104.6	-9	1.3	.3	.8
Total, Eastern Europe:																
Gross product.....	100	109.3	110.8	109.8	104.7	98.7	104.8	109.7	112.3	111.7	109.0	108.7	-6	2.1	.5	-3
Net product.....	100	109.8	111.0	109.5	103.2	96.4	102.2	106.8	109.1	107.7	104.3	103.4	-1.1	1.6	0	-9

<sup>1</sup> Preliminary.

Sources: Data in table 3 divided by population data taken from statistical yearbooks of respective countries (see app. A).

TABLE 8.—PER CAPITA COMPARISONS OF LEVELS OF OUTPUT, GROSS AND NET PRODUCT IN AGRICULTURE  
[Eastern Europe=100]

	Agricultural output			Crop output			Animal output			Gross product			Net product		
	1966-70	1971-75	1976 <sup>1</sup>	1966-70	1971-75	1976 <sup>1</sup>	1966-70	1971-75	1976 <sup>1</sup>	1966-70	1971-75	1976 <sup>1</sup>	1966-70	1971-75	1976 <sup>1</sup>
Bulgaria.....	120.0	114.0	113.9	158.0	149.4	135.6	90.7	88.8	97.9	121.5	120.6	127.9	124.1	123.0	130.1
Czechoslovakia.....	92.5	93.3	89.7	71.2	67.5	59.9	109.9	111.6	111.5	74.9	74.0	72.6	66.2	64.4	62.2
East Germany.....	99.1	99.7	97.5	65.9	65.9	57.5	126.4	123.7	126.9	99.1	99.4	98.4	97.9	96.7	94.4
Hungary.....	119.7	127.2	122.0	122.9	136.8	125.3	117.1	120.4	119.6	119.5	120.8	118.7	120.5	120.0	115.7
Poland.....	110.5	111.9	107.4	106.5	110.4	113.5	113.9	112.9	102.9	108.1	106.6	98.6	109.7	108.8	100.0
Romania.....	84.8	84.7	95.4	99.9	98.5	115.2	70.2	74.9	81.0	85.2	83.1	86.2	82.0	78.6	82.5
Yugoslavia.....	86.4	81.9	85.3	103.2	96.5	97.1	72.6	71.6	76.7	102.1	106.0	115.7	108.3	115.3	127.9
Countries with socialized agriculture.....	99.1	99.8	100.9	96.1	96.2	94.4	101.5	102.3	105.5	95.7	95.2	96.0	93.2	91.4	91.7
Countries with private agriculture.....	101.3	100.3	98.9	105.2	105.0	107.2	98.0	97.0	92.8	105.8	106.4	105.2	109.1	111.3	110.7
Total, Eastern Europe.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

<sup>1</sup> Preliminary.

Sources: Calculated from physical quantities weighted by FAO Eastern European and Soviet Union wheat-based price relatives for 1961-65, divided by population data (see App. A).

From 1966-70 to 1971-75, however, the levels of per capita agricultural output declined in Bulgaria and Yugoslavia in relation to Eastern Europe as a whole. Hungary improved its relative position greatly, followed by Poland. Hungary has been and is the highest per capita producer of agricultural output, followed by Bulgaria and Poland, while Yugoslavia has been the lowest. Again, Bulgaria and Hungary ranked highest in per capita output of crops, while East Germany, Hungary, Poland and Czechoslovakia excelled in per capita output of animal products. The lowest per capita levels of output of crops occurred in East Germany and Czechoslovakia, while Yugoslavia and Romania rank lowest in per capita output of animal products. East Germany and Czechoslovakia have been large importers of grain in recent years. The levels of gross and net product per capita follow roughly the output pattern for individual countries. Hungary, Bulgaria, Poland and Yugoslavia rank above the average, while Czechoslovakia, East Germany and Romania are well below the average level of Eastern Europe as a whole.

The combined measures for country groups reveal that the relative levels of per capita output of animal products in the countries with socialized agriculture have increased somewhat over time, while these levels have decreased somewhat in the countries with private agriculture. The relative level of net product, however, had a tendency to increase for the countries with private agriculture on a per capita basis, in relation to Eastern Europe as a whole. The relative levels of crop output and gross and net product per capita are higher in private than in socialized agriculture.

## V. PRODUCTIVITY OF LAND AND LIVESTOCK

### A. *Agricultural Land and Land Per Farm Worker*

In most East European countries, the area of agricultural land<sup>7</sup> remained relatively stable during the period under study. In Czechoslovakia, East Germany, Hungary, Poland and Yugoslavia, agricultural land declined one to three percent, while in Bulgaria and Romania it increased one to three percent in the same period.<sup>8</sup> Poland has about 26 percent of the total agricultural land in Eastern Europe, followed by Romania and Yugoslavia with close to 20 percent each. The remaining four countries each held between 8 and 9 percent of the total agricultural land in Eastern Europe (table 16).

In comparison to the US standard, the agricultural land per person employed in agriculture is very small in all the East European countries (table 9). Because of the continuing rapid decline in agricultural employment in the last twelve years, agricultural land per employed person in agriculture rose sharply in all countries except Poland. By 1976, the number of hectares per person employed in agriculture ranged from 3.7 in Poland to 7.5 in East Germany, with 4.5 hectares the average for all Eastern Europe. The growth of agricultural land per person employed accelerated for the countries with socialized agriculture during the 1970-76 period, while for the countries with private agriculture the rate of growth decelerated in the same period. Poland actually experienced a slight decline in land per person employed in agriculture in the last seven years because agricultural employment remained stable while land declined somewhat.

<sup>7</sup> Agricultural land comprises all arable land, including orchards, gardens, vineyards, permanent and temporary meadows, pasture, and grazing land.

<sup>8</sup> See Council for Economic Mutual Assistance. Secretariat. *Statisticheskii Ezhegodnik Stran-Chlenosev, 1976*, Moscow, 1976, pp. 184-185.

TABLE 9.—AGRICULTURAL LAND PER PERSON, EMPLOYED IN AGRICULTURE

	Hectares per employed				Indexes, <sup>1</sup> 1965=100			
	1965	1970	1975	1976 <sup>2</sup>	1965	1970	1975	1976 <sup>2</sup>
Bulgaria.....	3.27	4.11	4.86	5.13	100	125.7	148.6	156.9
Czechoslovakia.....	5.67	6.00	6.78	6.90	100	105.8	119.6	121.7
East Germany.....	5.62	6.58	7.39	7.46	100	117.1	131.5	132.7
Hungary.....	5.54	5.83	6.59	6.72	100	105.2	119.0	121.3
Poland.....	3.71	3.74	3.68	3.67	100	100.8	99.2	98.9
Romania.....	2.67	3.02	3.81	3.99	100	113.1	142.7	149.4
Yugoslavia.....	3.40	3.73	4.07	4.14	100	109.7	119.7	121.8
Countries with socialized agriculture.....	3.74	4.24	5.08	5.27	100	113.4	135.8	140.9
Countries with private agriculture.....	3.57	3.74	3.84	3.86	100	104.8	107.6	108.1
Total, Eastern Europe.....	3.68	3.99	4.43	4.52	100	108.4	120.4	122.8

<sup>1</sup> Indexes are calculated from unrounded data.

<sup>2</sup> Preliminary.

Source: See app. A.

### B. Growth of Output and Inputs per Unit of Land

In this section we summarize our findings on output and input measures per hectare of agricultural land. As a result of the relative stability of the area in agricultural land, the output and input measures per unit of land followed the same general trends over the period under review as the total performance measures given in tables 2 and 3.

Tables 10 and 11 show the trends of various measures of production and expenses per hectare of agricultural land by country, groups of countries, and region. In general, the productivity of land increased in all countries. However, the economically less developed countries except Bulgaria had the larger annual rates of increase because their production per unit of land was low in the earlier postwar years. In all countries the average annual rate of growth of output of animal products per unit of land exceeded that of output of crops. Over the whole period, the countries with private agriculture experienced a 3.3 percent annual rate of growth of output per unit of land, while the countries with socialized agriculture had a 2.9 percent rate of growth (table 10).

Current operating expenses per unit of land increased from 1965 to 1976 most in Romania (3 times), followed by Hungary (2.3 times), Poland (2.2 times), East Germany and Bulgaria (1.8 times), Czechoslovakia (1.6 times), and Yugoslavia (less than 1.5 times). Over the whole period the annual rate of growth of expenses per unit of land was higher in the countries with private agriculture than in the countries with socialized agriculture (table 11).

From 1965 to 1976, gross and net product per unit of land increased at the highest annual rate in Yugoslavia (2.9 percent), followed by Hungary (1.0–1.7 percent), Czechoslovakia (0.9–1.5 percent), Poland (0.4–0.8 percent), East Germany, Romania and Bulgaria. The rates were higher for all countries in the 1970–75 period than in 1965–70. The countries with private agriculture had higher rates of growth in gross and net product per unit of land from 1965 to 1976 than the countries with socialized agriculture.

TABLE 10.—GROWTH OF AGRICULTURAL OUTPUT PER HECTARE OF AGRICULTURAL LAND

	Indexes, 1965=100											Average annual rates of growth				
	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1965-70	1970-5	1965-75	1976
Bulgaria:																
Output.....	100	107.7	106.7	104.7	101.5	103.8	107.7	112.8	112.9	110.4	117.0	120.5	0	1.9	1.2	3.0
Crops.....	100	112.0	104.1	100.5	99.7	98.4	98.6	107.8	107.1	96.6	98.2	101.2	-1.3	-2	-4	3.1
Animal products.....	100	101.3	110.7	111.0	104.4	112.0	121.3	120.2	121.5	131.0	145.2	149.6	1.9	4.5	3.2	3.0
Czechoslovakia:																
Output.....	100	110.8	112.0	114.9	118.3	125.0	125.1	130.9	136.0	140.0	141.4	140.0	3.9	2.9	3.3	-1.0
Crops.....	100	124.4	119.0	121.6	124.8	127.2	116.2	121.7	125.4	127.8	127.1	121.0	3.6	.9	1.3	-4.8
Animal products.....	100	104.2	108.7	111.7	115.2	123.9	129.5	135.3	141.2	146.0	148.3	149.5	4.1	3.8	4.3	.8
East Germany:																
Output.....	100	104.5	110.1	112.5	108.3	110.7	112.2	118.9	122.0	129.4	129.9	124.2	1.8	3.6	2.4	-4.4
Crops.....	100	101.5	114.7	111.2	96.8	104.6	101.3	108.7	106.6	112.2	114.1	100.1	.1	2.1	.8	-12.3
Animal products.....	100	105.9	107.9	113.0	113.4	113.5	117.1	123.6	128.9	137.2	136.9	135.0	2.6	4.2	3.1	-1.4
Hungary:																
Output.....	100	108.2	117.7	118.2	125.1	113.9	130.3	136.3	145.1	152.8	149.6	147.1	3.2	5.6	4.0	-1.7
Crops.....	100	111.6	103.3	125.5	145.7	107.3	128.6	142.0	158.8	152.0	151.1	146.8	3.2	6.9	3.7	-2.8
Animal products.....	100	105.6	108.0	112.7	109.3	118.8	131.5	131.9	134.5	153.4	148.5	147.3	2.9	4.7	4.3	-.8
Poland:																
Output.....	100	103.7	105.5	113.4	110.3	110.9	114.6	123.6	133.7	138.5	135.9	128.6	2.2	4.9	3.3	-5.4
Crops.....	100	101.1	105.3	118.2	106.5	113.7	112.5	118.7	127.1	124.7	127.5	132.6	2.6	2.8	2.5	4.0
Animal products.....	100	105.8	105.7	109.7	113.3	108.8	116.2	127.5	138.8	149.1	142.2	125.6	1.9	6.4	4.0	-11.7
Romania:																
Output.....	100	114.3	119.2	114.9	116.5	107.1	122.6	134.6	143.2	139.4	145.4	166.4	1.0	5.8	3.3	14.4
Crops.....	100	116.0	117.5	114.3	117.8	94.4	113.2	120.3	126.3	119.0	122.1	154.2	-.8	4.3	1.3	26.3
Animal products.....	100	112.2	121.2	115.6	114.8	122.8	134.1	152.1	163.9	164.3	174.1	181.2	3.0	7.2	5.5	4.1
Yugoslavia:																
Output.....	100	114.1	115.0	112.5	124.5	114.4	123.2	121.1	130.9	140.4	138.1	147.8	2.6	4.1	2.7	7.0
Crops.....	100	125.8	121.6	117.5	140.4	109.8	124.0	117.5	129.3	131.0	126.9	139.9	2.2	2.9	1.3	10.2
Animal products.....	100	112.1	108.2	107.2	108.0	119.1	122.4	125.0	132.7	150.2	149.7	155.9	2.2	5.3	3.9	4.1
Countries with socialized agriculture:																
Output.....	100	109.0	113.9	113.1	112.9	112.2	119.0	126.5	131.9	134.3	136.6	140.1	1.9	4.0	2.9	2.6
Crops.....	100	112.9	117.9	113.8	114.6	104.8	111.1	119.6	124.3	120.0	121.2	127.5	.7	2.9	1.3	5.2
Animal products.....	100	106.0	110.7	112.5	111.7	117.9	125.2	131.8	137.7	145.4	148.5	149.7	2.9	4.8	4.0	.8
Countries with private agriculture:																
Output.....	100	106.9	108.5	103.1	114.9	112.0	117.4	122.9	132.9	139.2	136.6	139.0	2.1	4.6	3.3	1.8
Crops.....	100	109.6	110.9	118.0	118.4	112.3	116.6	118.3	127.9	126.9	127.3	139.4	2.5	2.8	2.0	9.5
Animal products.....	100	104.7	106.4	109.0	111.9	111.8	118.1	126.8	137.0	149.6	144.4	138.7	2.3	6.1	4.1	-3.9
Total, Eastern Europe:																
Output.....	100	108.1	111.4	113.1	113.8	112.0	118.4	124.9	132.4	136.7	136.6	139.7	2.1	4.3	3.0	2.3
Crops.....	100	111.4	114.7	115.6	109.3	108.1	113.5	119.0	125.9	123.1	123.9	132.8	1.0	2.8	1.7	7.2
Animal products.....	100	105.4	108.8	111.0	111.8	115.3	122.3	129.7	137.5	147.2	146.8	145.3	2.6	5.3	4.0	-1.0

1 Preliminary.

Sources: Data in table 2 divided by acreage of agricultural land taken from statistical yearbooks of respective countries (see app. A).

TABLE 11.—GROWTH OF OPERATING EXPENSES INCLUDING DEPRECIATION, GROSS AND NET PRODUCT PER HECTARE OF AGRICULTURAL LAND

	Indexes, 1965=100											Average annual rates of growth					
	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976 <sup>1</sup>	1965-70	1970-75	1965-75	1976 <sup>1</sup>	
<b>Bulgaria:</b>																	
Expenses.....	100	115.4	122.3	141.5	136.7	138.2	159.5	156.1	152.7	173.5	153.6	177.0	6.7	2.2	4.5	15.2	
Gross product.....	100	105.3	102.3	95.1	92.8	95.7	94.9	102.8	104.5	96.0	110.5	109.6	-1.9	2.2	.3	-1.8	
Net product.....	100	105.3	101.9	93.4	90.7	93.2	91.7	99.3	100.6	90.9	105.7	103.1	-2.5	1.8	-2	-2.5	
<b>Czechoslovakia:</b>																	
Expenses.....	100	104.9	103.5	105.5	113.4	137.3	134.2	142.5	149.2	154.5	160.5	159.0	5.4	3.6	5.4	-1.9	
Gross product.....	100	114.5	118.6	122.3	122.5	112.5	116.5	120.3	124.5	128.0	125.8	123.4	2.4	2.5	1.5	-1.9	
Net product.....	100	117.3	121.4	125.3	123.7	111.4	115.2	118.2	121.6	124.4	120.3	116.3	2.1	1.9	.9	-3.3	
<b>East Germany:</b>																	
Expenses.....	100	105.0	108.4	113.5	115.5	135.7	153.0	147.6	160.0	173.4	179.8	183.0	5.5	5.5	6.5	1.8	
Gross product.....	100	104.5	111.0	112.7	106.8	102.9	95.5	111.0	111.1	116.7	115.5	107.2	.6	3.2	1.0	-7.2	
Net product.....	100	104.3	110.8	112.1	105.0	99.9	94.5	106.5	105.6	110.4	108.1	95.6	.1	2.5	.2	-11.6	
<b>Hungary:</b>																	
Expenses.....	100	99.1	106.8	123.6	131.3	146.9	176.6	188.3	195.2	230.8	222.4	227.9	8.7	8.7	9.8	2.5	
Gross product.....	100	110.8	120.8	115.8	122.8	102.5	113.9	117.8	128.4	126.7	126.5	122.3	1.1	4.3	1.7	-3.3	
Net product.....	100	112.2	122.2	116.0	122.6	99.9	110.9	114.5	124.1	120.1	119.0	113.2	.6	3.5	1.0	-4.9	
<b>Poland:</b>																	
Expenses.....	100	90.4	99.7	110.6	153.6	146.4	140.5	155.9	181.5	205.5	218.3	219.4	10.8	9.9	9.1	.5	
Gross product.....	100	108.8	107.8	114.4	95.2	98.9	106.5	113.0	117.0	114.9	107.2	106.4	-1.1	1.9	.8	-1.7	
Net product.....	100	109.1	107.9	114.5	92.9	96.5	104.1	110.5	114.4	111.4	102.5	100.9	-1.7	1.6	.4	-1.6	
<b>Romania:</b>																	
Expenses.....	100	111.4	127.7	136.1	148.7	154.2	164.0	187.7	233.7	231.0	258.4	307.0	9.2	11.3	9.7	20.7	
Gross product.....	100	114.2	115.8	108.3	107.3	94.7	112.0	120.1	115.5	112.2	112.4	120.8	-1.5	2.4	.7	7.5	
Net product.....	100	115.4	116.1	106.9	104.2	89.3	106.8	114.6	108.9	104.9	104.3	113.2	-2.7	1.9	-2	8.5	
<b>Yugoslavia:</b>																	
Expenses.....	100	115.8	108.5	100.9	113.3	111.2	115.4	110.4	113.5	127.8	134.3	146.1	1.1	3.7	2.0	8.8	
Gross product.....	100	113.8	116.1	114.4	126.5	114.9	124.7	123.3	133.8	142.7	139.2	148.5	2.9	4.2	2.9	6.7	
Net product.....	100	113.8	116.1	114.4	126.5	114.9	124.5	123.1	134.0	142.7	138.8	148.1	2.9	4.2	2.9	6.7	
<b>Countries with socialized agriculture:</b>																	
Expenses.....	100	106.3	113.6	119.9	124.8	144.1	153.1	160.5	175.2	186.9	191.4	206.5	7.0	6.2	7.1	7.9	
Gross product.....	100	109.6	113.5	110.4	108.9	100.0	106.5	114.4	116.0	115.2	117.0	115.9	-1.1	3.0	1.0	-1.9	
Net product.....	100	110.3	114.0	109.8	107.3	96.8	102.6	110.1	110.9	108.9	110.1	107.9	-1.8	2.4	.3	-2.0	
<b>Countries with private agriculture:</b>																	
Expenses.....	100	95.1	101.4	108.9	145.1	139.9	136.1	147.5	168.9	191.1	202.6	205.6	9.1	9.0	7.9	1.5	
Gross product.....	100	110.5	110.7	114.5	106.9	104.4	112.9	116.4	122.8	124.6	118.2	120.9	.3	2.8	1.6	2.3	
Net product.....	100	110.7	110.7	114.6	104.7	103.0	111.8	115.0	121.3	122.6	115.3	117.6	.0	2.6	1.3	2.0	
<b>Total, Eastern Europe:</b>																	
Expenses.....	100	102.2	107.3	115.9	132.7	142.6	147.1	156.0	173.2	188.8	195.8	206.7	7.8	7.2	7.5	5.6	
Gross product.....	100	110.0	112.2	112.2	107.6	102.1	109.3	115.3	119.1	119.4	117.6	118.2	.1	2.9	1.3	.5	
Net product.....	100	110.5	112.4	111.9	106.1	99.7	106.6	112.3	115.7	115.1	112.5	112.5	-1.4	2.5	.8	0	

<sup>1</sup> Preliminary.

Sources: Data in table 3 divided by acreage of agricultural land taken from statistical yearbooks of respective countries (see app. A).

### *C. Comparison of Levels of Output and Inputs Per Unit of Land*

Relative levels of productivity of land in relation to the East European average as a base are shown in table 12. Over the postwar period the differences among countries in productivity of land have been reduced, but in 1976 they were still very large, and they were greater in the output of animal products than in that of crops. In 1976, for example, East Germany produced about three times as much animal products per hectare as either Romania or Yugoslavia. In the countries with socialized agriculture, productivity of land in terms of crop output had been about two percent higher than in countries with private agriculture in 1966-70, but this difference disappeared, and by 1976 the countries with private agriculture exceeded the socialized ones by 7 percent. Levels of animal output were higher in the socialized group.

There have been even larger differences in inputs per hectare among East European countries. Czechoslovakia's and East Germany's levels were about 6-7 times as large as Yugoslavia's in 1971-75. The use of non-agricultural inputs per unit of land in the countries with socialized agriculture exceeded by 48 percent that in the countries with private agriculture in the 1971-75 period.

Differences in levels of gross and net product per hectare among countries of Eastern Europe were smaller than those of inputs. The net product per hectare of land in the countries with private agriculture exceeded that in the countries with socialized agriculture by 5 percent in the 1966-70 period, and by 13 percent in 1976. The level of Romanian gross and net product per unit of land remained the lowest among the East European countries.

### *D. Yields of Selected Crops per Hectare*

Table 13 provides a more specific view of comparative levels and trends in productivity of land among various East European countries. It shows yields per hectare for selected crops: wheat, rye, potatoes, and sugar beets. In the 1950's the yields in all the East European countries, except East Germany and Czechoslovakia, were substantially below those in West Germany. In Bulgaria, Romania and Yugoslavia the average yields were one half or less than half of those of West Germany. It should be noted that the natural fertility of West German land is not better than that of Eastern Europe; much of the land in the Danubian Plains is of superior quality. In the last 17 years an effort has been made to improve the productivity of land, and in most of the East European countries yields have increased substantially. In all the countries, the yields of wheat improved the most, and by 1974-76, the differences in yields between East European countries and West Germany became much smaller. The rates of improvement in rye, potatoes, and sugar beets were less uniform among the East European countries; Czechoslovakia, Hungary, Poland and Yugoslavia showed most rapid progress in yields of wheat, rye, potatoes and sugar beets, but their yields are still quite low compared to West German yields in 1974-76.

TABLE 12.—COMPARISONS OF LEVELS OF OUTPUT, EXPENSES, INCLUDING DEPRECIATION, GROSS AND NET PRODUCT PER HECTARE OF AGRICULTURAL LAND

[Total Eastern Europe=100]

	Agricultural output			Crop output			Animal output			Expenses including depreciation			Gross product			Net product		
	1966-70	1971-75	1976	1966-70	1971-75	1976	1966-70	1971-75	1976	1966-70	1971-75	1976	1966-70	1971-75	1976	1966-70	1971-75	1976
Bulgaria.....	106.0	97.4	97.3	138.4	127.7	115.9	79.4	75.9	83.7	100.3	85.0	78.8	106.4	103.1	109.3	108.7	105.2	111.2
Czechoslovakia.....	115.2	115.0	98.4	88.8	83.2	74.2	136.9	137.5	138.1	187.8	171.9	156.5	93.4	91.1	89.9	82.5	79.4	77.0
East Germany.....	165.9	160.3	151.0	110.2	105.9	89.0	211.6	198.8	196.3	170.8	167.9	157.4	165.9	159.9	152.2	163.9	155.5	146.2
Hungary.....	110.1	116.1	111.1	113.1	124.9	114.1	107.7	109.9	108.9	108.7	126.7	118.8	109.9	110.3	108.1	110.9	109.5	105.4
Poland.....	112.5	115.1	111.8	108.4	113.6	118.2	115.9	116.2	107.1	114.8	120.2	122.0	110.0	109.7	102.6	111.6	111.9	104.1
Romania.....	68.3	70.4	79.5	81.6	81.9	95.9	57.3	62.3	67.4	71.3	78.5	93.8	69.6	69.1	71.8	66.6	65.4	68.7
Yugoslavia.....	72.6	70.4	74.0	86.7	82.9	84.2	61.0	61.6	66.5	32.1	24.5	24.9	85.9	91.2	100.3	91.1	99.1	110.8
Countries with socialized agriculture.....	103.9	103.3	103.7	100.8	99.6	97.1	106.4	106.0	108.5	117.8	117.2	116.2	100.3	98.6	98.7	97.7	94.7	94.3
Countries with private agriculture.....	95.4	95.9	95.5	99.1	100.4	103.6	92.3	92.7	89.7	79.3	79.2	80.3	99.7	101.7	101.6	102.8	106.4	107.0
Total, Eastern Europe.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

1 Preliminary

Sources: Calculated from physical quantities weighted by FAO Eastern European and Soviet Union wheat-based price relatives for 1961-65 divided by acreage of agricultural land (see app. A).

TABLE 13.—YIELDS PER HECTARE OF AGRICULTURAL LAND FOR WHEAT, RYE, POTATOES, AND SUGAR BEETS PER YEAR

	Quintals per hectare		Indexes of yields per hectare, 1965-67=100	
	1965-67	1974-76 <sup>1</sup>	1965-67	1974-76 <sup>1</sup>
<b>Wheat:</b>				
Bulgaria.....	28.0	36.2	100	129
Czechoslovakia.....	25.5	37.1	100	145
East Germany.....	35.3	39.7	100	112
Hungary.....	23.1	36.1	100	156
Poland.....	21.5	30.0	100	140
Romania.....	18.9	21.7	100	115
Yugoslavia.....	23.8	32.0	100	134
West Germany.....	34.8	46.1	100	132
<b>Rye:</b>				
Bulgaria.....	12.2	13.9	100	116
Czechoslovakia.....	20.5	28.9	100	141
East Germany.....	23.7	27.0	100	114
Hungary.....	11.3	14.9	100	132
Poland.....	18.0	23.8	100	132
Romania.....	11.5	12.3	100	107
Yugoslavia.....	11.8	12.6	100	107
West Germany.....	28.0	35.1	100	114
<b>Potatoes:</b>				
Bulgaria.....	105.5	110.1	100	104
Czechoslovakia.....	122.3	142.0	100	116
East Germany.....	189.0	152.8	100	81
Hungary.....	94.8	119.0	100	126
Poland.....	166.3	184.8	100	111
Romania.....	93.1	130.0	100	140
Yugoslavia.....	84.0	101.0	100	120
West Germany.....	263.2	286.2	100	109
<b>Sugar beets:</b>				
Bulgaria.....	317.5	295.1	100	93
Czechoslovakia.....	326.0	346.0	100	106
East Germany.....	303.1	241.8	100	80
Hungary.....	312.3	323.9	100	104
Poland.....	310.0	303.0	100	98
Romania.....	204.9	234.8	100	115
Yugoslavia.....	357.3	411.0	100	115
West Germany.....	418.7	430.0	100	103

<sup>1</sup> Data for 1976 are preliminary.

Sources: Calculated from FAO yearbooks and statistical yearbooks of respective countries.

### *E. Yields Per Livestock Unit*

Throughout the postwar period, the yields of meat per pig were increasing steadily from low levels. In the decade from 1965-67 to 1974-76 these yields increased in all countries by between 8 and 20 percent (table 14).

TABLE 14.—YIELDS PER HEAD OF LIVESTOCK FOR MEAT, MILK, AND EGGS PER YEAR

	Yields per head of livestock		Indexes of yields per head of livestock, 1965-67=100	
	1965-67	1974-76 <sup>1</sup>	1965-67	1974-76 <sup>1</sup>
<b>Meat per pig in kilograms of live weight:</b>				
Bulgaria.....	113	122	100	108
Czechoslovakia.....	116	130	100	112
East Germany.....	112	122	100	109
Hungary.....	120	138	100	115
Poland.....	92	109	100	118
Romania.....	92	110	100	120
Yugoslavia.....	110	126	100	115
West Germany.....	160	188	100	118
<b>Milk per cow in liters:</b>				
Bulgaria.....	1,864	2,309	100	124
Czechoslovakia.....	2,069	2,807	100	136
East Germany.....	3,079	3,801	100	123
Hungary.....	2,328	2,675	100	115
Poland.....	2,257	2,605	100	115
Romania.....	1,621	1,768	100	109
Yugoslavia.....	1,196	1,362	100	114
West Germany.....	3,666	4,000	100	109
<b>Eggs per hen in numbers:</b>				
Bulgaria.....	99	122	100	123
Czechoslovakia.....	150	215	100	143
East Germany.....	148	195	100	132
Hungary.....	97	120	100	124
Poland.....	96	125	100	130
Romania.....	91	139	100	153
Yugoslavia.....	76	114	100	150
West Germany.....	202	279	100	138

<sup>1</sup> Data for 1976 are preliminary.

Sources: Calculated from FAO yearbooks and statistical yearbooks of respective countries.

In the 1950's milk yields per cow were very low in Bulgaria, Romania and Yugoslavia, but they have since increased substantially, especially in Bulgaria and Romania. The countries with higher milk yields, i.e., Czechoslovakia, East Germany, Hungary and Poland also achieved good increases from 1965-67 to 1974-76.

Yields of eggs per hen increased by between 23 to 53 percent in Bulgaria, Hungary, Poland, East Germany, Czechoslovakia, Yugoslavia and Romania, in ascending order, from 1965-67 to 1974-76. As of 1974-76, the yields per livestock unit remained lower in all East European countries than in West Germany. The differences in yields, however, have been reduced greatly among countries in recent years.

## VI. PRODUCTIVITY OF LABOR IN AGRICULTURE

### A. Decline in Agricultural Labor Force

Labor data used in this study are mostly in terms of the full-time employment equivalents in agriculture, which includes farmers, their wives working in agriculture, helping family members, and hired labor. The quality of agricultural labor statistics varies from country to country. East German, Czechoslovak, Hungarian and Polish labor data are homogeneous, while those for the other East European countries are less standardized, and consequently the quality of labor units is less homogeneous.

In all of the East European countries the labor force in agriculture continued to decline substantially from 1965 to 1976. The percentage declines for different countries are given in table 15.

TABLE 15.—EMPLOYMENT IN AGRICULTURE

	Indexes, 1965=100							
	1965	1966	1967	1968	1969	1970	1971	1972
Bulgaria.....	100	96.8	95.3	90.7	86.1	82.5	79.1	77.2
Czechoslovakia.....	100	99.6	97.2	95.6	94.5	93.7	92.5	86.9
East Germany.....	100	97.3	95.5	90.6	87.1	84.5	82.2	78.9
Hungary.....	100	98.9	97.8	97.0	95.6	93.2	91.2	88.9
Poland.....	100	99.7	99.2	98.9	98.8	98.5	98.3	98.1
Romania.....	100	98.3	96.6	94.9	92.7	89.3	85.3	81.1
Yugoslavia.....	100	98.1	96.2	94.3	92.4	90.4	88.5	86.8
Countries with socialized agriculture.....	100	98.2	96.5	94.1	91.6	88.7	85.5	81.8
Countries with private agriculture.....	100	99.0	97.8	96.8	95.9	94.9	93.9	93.0
Total, Eastern Europe.....	100	98.5	97.1	95.4	93.6	91.6	89.4	87.0

	Indexes, 1965=100				Average annual rates of change			
	1973	1974	1975	1976	1965-70	1970-75	1965-75	1976
Bulgaria.....	75.7	73.1	69.2	65.6	-3.8	-3.2	-3.6	-5.2
Czechoslovakia.....	84.5	83.8	81.9	80.0	-1.4	-2.8	-2.1	-2.3
East Germany.....	77.3	76.0	75.3	74.6	-3.5	-2.4	-3.0	-9
Hungary.....	85.8	83.0	81.2	79.5	-1.3	-2.8	-2.1	-2.1
Poland.....	97.8	98.4	98.5	98.5	-3	0	-2	0
Romania.....	77.5	74.2	70.9	67.7	-2.2	-4.5	-3.5	-4.5
Yugoslavia.....	85.0	83.3	81.6	80.0	-2.0	-2.0	-2.0	-2.0
Countries with socialized agriculture.....	79.0	76.3	73.5	70.8	-2.4	-3.7	-3.1	-3.6
Countries with private agriculture.....	92.0	91.6	90.9	90.2	-1.0	-.8	-1.0	-.8
Total, Eastern Europe.....	85.1	83.5	81.7	81.2	-1.7	-2.3	-2.1	-2.2

<sup>1</sup> Preliminary.

Source: See app. A.

Bulgaria and Romania had the largest exodus of labor from agriculture (about one-third), followed by East Germany (one-fourth decline); Czechoslovakia, Hungary and Yugoslavia (one-fifth, each), while Poland experienced very stable employment from 1965 to 1976. In the last six years the largest decreases occurred in Romania, Bulgaria, Czechoslovakia and Hungary.

Table 16 shows the percentage distribution of agricultural labor. The Polish agricultural labor force in 1976 accounted for 32 percent, the Romanian for 23 percent, and the Yugoslav for 21 percent of the total East European agricultural labor force. The remaining four countries together account for only 24 percent of the total.

TABLE 16.—PERCENTAGE DISTRIBUTION OF AGRICULTURAL EMPLOYMENT, AGRICULTURAL LAND, AND TOTAL POPULATION <sup>1</sup>

[Eastern Europe=100]

	Agricultural employment			Agricultural land			Total population		
	1966-70	1971-75	1976 <sup>2</sup>	1966-70	1971-75	1976 <sup>2</sup>	1966-70	1971-75	1972 <sup>2</sup>
Bulgaria.....	8.1	7.5	7.1	7.8	8.0	8.0	6.9	6.8	6.8
Czechoslovakia.....	6.2	6.2	6.1	9.4	9.4	9.3	11.8	11.6	11.6
East Germany.....	5.3	5.0	5.1	8.4	8.4	8.4	14.0	13.5	13.1
Hungary.....	6.2	6.2	6.1	9.1	9.1	9.1	8.4	8.3	8.3
Poland.....	26.7	29.5	31.7	26.0	25.8	25.7	26.4	26.5	26.7
Romania.....	26.6	24.5	22.8	19.8	19.9	20.1	16.1	16.6	16.7
Yugoslavia.....	20.9	21.1	21.1	19.5	19.4	19.4	16.4	16.7	16.8
Countries with socialized agriculture.....	52.4	49.4	47.2	54.5	54.8	54.9	57.2	56.8	56.5
Countries with private agriculture.....	47.6	50.6	52.8	45.5	45.2	45.1	42.8	43.2	43.5
Total Eastern Europe.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

<sup>1</sup> Percentages may not add up to total due to rounding.

<sup>2</sup> Preliminary.

Sources: See app. A.

### *B. Growth of Output and Inputs Per Worker*

As a result of the decline in the agricultural labor force, a consequence of continuing industrialization, the productivity of labor in agriculture increased sharply over the postwar period. Tables 17 to 19 summarize the trends in labor productivity by country, groups of countries, and region from 1965 to 1976.

Obviously, countries with the largest declines in labor experienced the largest increases in labor productivity, provided that total output was not lagging. Romania, Bulgaria, Hungary, Yugoslavia and Czechoslovakia had the largest increases in output per unit of labor during this period; they were followed by East Germany and Poland. From 1965 to 1975, the average annual compound rate of increase was higher for the countries with socialized agriculture (6.2 percent) than for those with private agriculture (3.9 percent); the agricultural labor force declined at a faster rate in the former group than in the latter. In Eastern Europe as a whole agricultural output per unit of labor increased by 5.1 percent annually in this period. During 1970-75, the growth of output per unit of labor was higher for all countries than in the 1965-70 period.

The increases in inputs per worker in agriculture were very impressive in all countries. The most dramatic increase occurred in Romania, with about a 4.6-fold rise over the 1965-76 period. In descending order, other increases were Bulgaria and Hungary (2.8-fold rise), East Germany (2.4-fold rise), Poland (2.2-fold rise), Czechoslovakia (2-fold), and last, Yugoslavia (1.8-fold rise). Again, the countries with socialized agriculture had larger increases in inputs per unit of labor (a 10.6 percent annual rate of growth) than the countries with private agriculture (8.7 percent annual rate of growth), from 1965 to 1975.

The increases in gross and net product per unit of labor in descending order were largest in Yugoslavia, Romania, Bulgaria, Czechoslovakia and Hungary, and lowest in East Germany, and Poland (table 18). In the 1965-75 period the countries with socialized agriculture achieved higher rates of growth in gross and net product per unit of labor (4.3 and 3.5 percent, respectively) than the countries with private agriculture (2.3 and 2.1 percent).

On the whole the East European performance per unit of labor has been impressive. It reflects largely the absorption of the extensive disguised agricultural unemployment that existed in this area, by transfers of labor to non-agricultural sectors of the economy, permitting better overall use of available human resources.

### *C. Levels of Output and Inputs Per Worker*

It may be useful to bring into focus comparative levels of productivity of labor among the different countries in relation to the East European average level. Such data are shown in table 19.

TABLE 17.—GROWTH OF AGRICULTURAL OUTPUT AND EXPENSES INCLUDING DEPRECIATION PER PERSON EMPLOYED IN AGRICULTURE

	Indexes, 1965—100											Average annual rates of growth				
	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976 <sup>1</sup>	1965-70	1970-75	1965-75	1976 <sup>1</sup>
Bulgaria:																
Output.....	100	111.5	113.3	117.2	122.6	131.6	141.2	151.9	154.0	158.7	173.8	188.9	5.0	5.1	5.4	8.7
Expenses.....	100	119.4	129.9	158.3	165.2	175.3	209.1	210.2	208.3	249.5	228.2	277.4	12.0	5.4	8.8	21.6
Czechoslovakia:																
Output.....	100	111.0	114.8	119.5	124.2	132.2	133.6	148.8	158.7	164.4	168.9	170.4	5.2	5.6	5.3	.9
Expenses.....	100	105.1	106.1	109.7	119.0	145.3	143.4	162.0	174.1	181.4	191.7	196.8	6.7	6.4	7.4	2.7
East Germany:																
Output.....	100	107.1	114.7	123.3	123.2	129.6	135.0	149.0	156.1	168.4	170.8	165.0	5.2	5.2	5.5	-3.4
Expenses.....	100	107.6	113.0	124.4	131.5	158.8	184.1	185.0	204.7	225.7	236.4	243.2	9.0	8.0	9.7	2.9
Hungary:																
Output.....	100	109.0	119.6	121.0	129.7	120.8	140.9	151.1	166.2	179.5	179.4	179.9	4.3	8.3	6.0	.3
Expenses.....	100	99.8	108.6	126.5	136.1	155.9	190.9	208.7	223.7	271.1	266.7	278.6	9.9	11.5	11.9	4.5
Poland:																
Output.....	100	103.9	106.1	114.4	111.2	112.0	115.8	124.3	134.6	138.1	134.9	133.8	2.4	4.5	3.3	-.8
Expenses.....	100	90.6	100.3	111.5	154.9	147.9	141.9	156.7	182.6	204.9	216.8	217.4	11.1	9.5	9.0	.3
Romania:																
Output.....	100	116.6	123.8	122.6	127.2	121.1	145.1	167.6	186.2	189.6	207.2	248.7	3.5	10.8	7.1	20.0
Expenses.....	100	113.6	132.6	145.1	162.4	174.2	194.1	233.8	304.0	314.2	362.3	458.9	11.9	16.6	13.7	26.7
Yugoslavia:																
Output.....	100	116.3	119.5	118.5	134.0	125.7	137.3	137.3	150.9	165.2	188.7	180.4	4.6	8.0	5.2	-4.4
Expenses.....	100	118.0	112.8	106.3	121.9	122.1	128.6	125.1	130.8	150.3	183.4	178.2	3.0	7.5	4.5	-2.8
Countries with socialized agriculture:																
Output.....	100	111.0	118.0	120.5	124.0	126.8	139.6	155.1	167.0	176.4	185.4	197.3	4.5	7.9	6.2	6.4
Expenses.....	100	108.2	117.7	127.8	137.0	162.9	179.6	196.8	221.8	245.5	259.9	290.8	9.7	10.2	10.6	11.9
Countries with private agriculture:																
Output.....	100	108.0	110.8	116.3	119.2	117.3	123.7	130.2	142.0	148.9	147.0	150.4	3.3	5.2	3.9	2.3
Expenses.....	100	96.1	103.6	112.0	151.6	146.6	143.5	156.2	180.4	204.5	217.9	222.6	10.1	9.5	8.7	2.2
Total, Eastern Europe:																
Output.....	100	109.7	114.7	118.6	121.7	122.3	132.0	142.9	154.3	162.4	165.4	169.8	3.9	6.5	5.1	2.7
Expenses.....	100	103.8	110.5	121.5	141.9	155.6	164.1	178.4	201.9	224.3	237.0	251.2	9.7	9.5	9.6	6.0

<sup>1</sup> Preliminary.

Sources: Data in Tables 2 and 3 divided by the indexes of agricultural employment of respective countries given in table 15 (see app. A).

TABLE 18.—GROWTH OF GROSS AND NET PRODUCT PER EMPLOYED PERSON IN AGRICULTURE

	Indexes 1965—100											Average annual rates of growth				
	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1965-70	1970-75	1965-75	1976
<b>Bulgaria:</b>																
Gross product.....	100	109.0	108.6	106.4	112.1	121.3	124.4	138.5	142.7	138.0	164.2	171.8	3.0	5.4	4.5	4.6
Net product.....	100	109.0	108.2	104.5	109.5	118.2	120.2	133.8	137.3	130.6	157.1	161.6	2.4	5.0	4.0	2.9
<b>Czechoslovakia:</b>																
Gross product.....	100	114.8	121.5	127.2	128.6	119.0	124.4	136.8	145.3	150.4	150.2	150.1	3.7	5.3	3.5	-1.1
Net product.....	100	117.6	124.4	130.2	129.8	117.8	123.0	134.4	141.9	146.1	143.7	141.5	3.4	4.6	2.8	-1.5
<b>East Germany:</b>																
Gross product.....	100	107.1	115.6	123.5	121.5	120.5	118.5	139.2	142.2	151.8	151.8	142.4	4.0	5.6	4.0	-6.2
Net product.....	100	106.9	115.4	122.8	119.5	116.9	113.7	133.5	135.1	143.7	142.1	131.0	3.4	4.9	3.3	-7.8
<b>Hungary:</b>																
Gross product.....	100	111.6	122.8	118.6	127.3	108.8	123.1	130.5	147.1	148.8	151.7	149.6	2.3	6.9	3.6	-1.4
Net product.....	100	113.0	124.2	118.8	127.1	106.0	119.8	126.9	142.2	141.1	142.7	138.4	1.7	6.2	2.9	-3.0
<b>Poland:</b>																
Gross product.....	100	109.0	108.5	115.4	96.0	99.9	107.6	113.6	117.7	114.5	106.4	105.4	-0.9	1.5	.8	-0.9
Net product.....	100	109.3	108.6	115.5	93.6	97.5	105.2	111.1	115.1	111.1	101.7	100.0	-1.5	1.2	.3	-1.7
<b>Romania:</b>																
Gross product.....	100	116.5	120.2	115.5	117.2	107.1	132.6	149.6	150.2	152.6	160.1	180.6	.9	7.2	4.4	12.8
Net product.....	100	117.7	120.5	114.0	113.8	100.9	126.5	142.7	141.7	142.6	148.5	169.3	-0.3	6.7	3.5	14.0
<b>Yugoslavia:</b>																
Gross product.....	100	116.0	120.7	120.5	136.0	126.2	139.0	139.7	154.2	167.8	190.1	181.2	4.8	8.1	5.4	-4.7
Net product.....	100	116.0	120.7	120.5	136.0	126.2	138.8	139.5	154.5	167.8	189.5	180.6	4.8	8.0	5.3	-4.7
<b>Countries with socialized agriculture:</b>																
Gross product.....	100	111.6	117.6	117.7	119.7	117.7	124.9	140.2	146.8	151.2	158.9	163.3	3.0	6.2	4.3	2.8
Net product.....	100	112.3	118.1	117.0	117.8	109.5	120.4	135.0	140.4	143.0	149.5	152.0	1.7	6.2	3.5	1.7
<b>Countries with private agriculture:</b>																
Gross product.....	100	111.6	113.1	117.7	109.9	109.4	119.1	123.3	131.2	133.3	127.2	130.8	1.3	3.4	2.3	2.8
Net product.....	100	111.8	113.1	117.8	108.7	107.9	117.9	121.8	129.6	131.1	124.1	127.3	1.0	3.1	2.1	2.6
<b>Total, Eastern Europe:</b>																
Gross product.....	100	111.7	110.5	117.6	115.1	111.4	121.9	131.8	138.8	141.8	142.4	143.7	2.0	5.1	3.4	.9
Net product.....	100	112.2	115.8	117.3	113.5	108.7	118.9	128.4	134.9	136.8	136.2	136.7	1.3	4.7	2.8	.4

<sup>1</sup> Preliminary.

Sources: Data in table 3 divided by the indexes of agricultural employment of respective countries given in table 15 (see app. A).

TABLE 19.—COMPARISONS OF LEVELS OF OUTPUT, EXPENSES, INCLUDING DEPRECIATION, GROSS AND NET PRODUCT PER PERSON EMPLOYED IN AGRICULTURE

[Eastern Europe=100]

	Agricultural output			Expenses including depreciation			Gross product			Net product		
	1966-70	1971-75	1976 <sup>1</sup>	1966-70	1971-75	1976 <sup>1</sup>	1966-70	1971-75	1976 <sup>1</sup>	1966-70	1971-75	1976
Bulgaria.....	102.1	103.8	110.3	96.7	90.5	89.3	102.5	109.9	123.9	104.7	112.1	126.0
Czechoslovakia.....	176.0	175.6	169.5	286.7	262.6	238.8	142.6	139.2	137.6	126.0	121.3	117.6
East Germany.....	264.7	268.3	249.1	272.7	281.1	259.7	264.7	267.7	251.2	261.5	260.4	241.2
Hungary.....	161.9	170.7	165.0	159.8	186.2	176.4	161.6	162.1	160.5	163.0	161.0	156.4
Poland.....	109.3	100.4	90.7	111.5	104.9	99.0	106.9	95.7	83.3	108.5	97.6	84.5
Romania.....	50.7	57.3	70.1	52.9	63.9	82.8	51.7	56.2	63.3	49.8	53.2	60.6
Yugoslavia.....	67.8	64.8	67.7	30.0	22.6	22.7	80.2	83.9	91.7	85.0	91.1	101.4
Countries with socialized agriculture.....	108.1	114.8	120.8	122.6	130.1	135.4	104.4	109.5	114.9	101.7	105.2	109.8
Countries with private agriculture.....	91.1	85.6	81.5	75.7	70.6	68.5	95.2	90.7	86.7	98.2	94.9	91.2
Total, Eastern Europe.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

<sup>1</sup> Preliminary.

wheat-based price relatives for 1961-65 divided by the number of employed people in agriculture taken from statistical yearbooks of respective countries (see app. A).

Sources: Calculated from physical quantities weighted by FAO East European and Soviet Union

Very large differences in productivity of labor continue to exist among the individual countries. Before the war a Bulgarian, Romanian or Yugoslav worker in agriculture produced hardly one-sixth as much output as an East German worker. As of 1976, the Romanian and Yugoslav worker still produced only about one-fourth of the East German output per worker. Czechoslovakia has been the second highest in output per worker, followed by Hungary, Bulgaria, Poland, Romania, and Yugoslavia on a rapidly descending scale.

The difference in relative levels of output of animal products per worker have been even greater. Relative levels of inputs and gross and net product per worker were approximately of the same order of magnitude as in the case of output.

In comparing the groups, we find that in the 1966-70 period the output, gross product, and net product per worker in countries with socialized agriculture were approximately 4 to 19 percent higher than those in countries with private agriculture. By 1971-75, however, the level of output, gross product, and net product per worker in the former group exceeded that of the latter by between 11 and 34 percent. The worker in the countries with private agriculture had about one-half the magnitude of the inputs at the disposal of the worker in the countries with socialized agriculture in 1976.

## VII. PROGRESS IN AGRICULTURAL TECHNOLOGY

### A. Progress in Mechanization

A close relationship between mechanical power input and productivity of land and labor has been observed in many countries.<sup>9</sup>

A widely used indicator of the extent of mechanization is the number of tractors per unit of land and per unit of labor. Table 20 presents estimates of tractors in terms of standard 15 H.P. tractor units per 1,000 hectares of agricultural land and per 1,000 workers in agriculture by country, groups of countries, and major regions. Our findings show that in the 1963-67 period the extent of the use of mechanical power was still low, by West European standards, in most of the East European countries. Only Czechoslovakia and East Germany were close to West European levels. However, the level of West European mechanization was, in turn, low in comparison to that of the United States, where there were 2,250 tractors per 1,000 full-time workers in agriculture in 1975.<sup>10</sup>

<sup>9</sup> U.N., FAO, "The State of Food and Agriculture 1968," Rome, 1968, pp. 93-95 and *ibid.*, 1973, pp. 145-154.

<sup>10</sup> U.S. Dept. of Agriculture, "Agricultural Statistics of 1975," *op. cit.*, p. 427, and "Survey of Current Business," 1977, No. 2, pp. 5-13.

TABLE 20.—NUMBER OF TRACTORS PER 1,000 HECTARES OF AGRICULTURAL LAND AND PER 1,000 WORKERS IN AGRICULTURE

	Number of tractors per 1,000 ha or 1,000 workers		Eastern Europe=100		Indexes of number of tractors per 1,000 ha or 1,000 workers (1963-67=100)	
	1963-67	1973-76 <sup>1</sup>	1963-67	1973-76 <sup>1</sup>	1963-67	1973-76 <sup>1</sup>
	Bulgaria:					
Per 1,000 ha.....	11.4	23.3	119	106	100	204
Per 1,000 workers.....	34.6	105.7	108	113	100	305
Czechoslovakia:						
Per 1,000 ha.....	24.7	38.5	257	175	100	156
Per 1,000 workers.....	139.6	250.5	435	267	100	179
East Germany:						
Per 1,000 ha.....	23.1	42.1	240	191	100	182
Per 1,000 workers.....	128.2	300.5	339	321	100	234
Hungary:						
Per 1,000 ha.....	9.1	17.2	95	78	100	189
Per 1,000 workers.....	44.0	107.8	137	115	100	245
Poland:						
Per 1,000 ha.....	7.3	25.6	76	116	100	351
Per 1,000 workers.....	23.3	95.0	73	101	100	408
Romania:						
Per 1,000 ha.....	5.5	10.4	57	47	100	189
Per 1,000 workers.....	13.0	35.9	40	38	100	276
Yugoslavia:						
Per 1,000 ha.....	3.1	14.2	32	65	100	458
Per 1,000 workers.....	10.7	55.7	33	59	100	521
Countries with socialized agriculture:						
Per 1,000 ha.....	13.0	23.1	135	105	100	178
Per 1,000 workers.....	44.5	109.2	139	117	100	245
Countries with private agriculture:						
Per 1,000 ha.....	5.5	20.7	57	94	100	376
Per 1,000 workers.....	18.1	78.6	56	84	100	434
Total Eastern Europe:						
Per 1,000 ha.....	9.6	22.0	100	100	100	229
Per 1,000 workers.....	32.1	93.7	100	100	100	292
Western Europe:						
Per 1,000 ha.....	27.1	46.0	282	209	100	170
Per 1,000 workers.....	198.0	398.0	617	425	100	201

<sup>1</sup> Data for 1976 are preliminary.

Sources: Calculated from statistical yearbooks of respective countries and FAO yearbooks and monthly statistical bulletins.

Progress in mechanization has continued to gain momentum. In all the countries the rates of increase were spectacular; in fact the percentage increases exceeded those of Western Europe. As a result, the differences among individual countries and between Eastern and Western Europe have somewhat narrowed with the passage of time. By the 1973-76 period, Czechoslovakia and East Germany had about four times as many tractors per unit of land and seven to eight times as many tractors per worker as Romania. Yugoslavia's level of mechanization was somewhat higher than that of Romania, and Poland's intensity in the use of tractors was about a third to a half of that of either Czechoslovakia or East Germany. Polish and Yugoslav progress in mechanization gained the fastest upward momentum in the last 12 years. The differences in relative levels of mechanization between the countries with socialized and private agriculture, taken as groups, narrowed dramatically from the 1963-67 to 1973-76 period. The pace of mechanization was much faster in the countries with private agriculture.

Western Europe has nonetheless retained its lead in mechanization over Eastern Europe. In the 1973-76 period, it still had about two times as many tractors per unit of land and about four times as many tractors per worker as Eastern Europe. Although progress in the mechanization of agriculture in Eastern Europe has been at a faster

rate than in Western Europe in the last 15 years, there is still plenty of room for further improvement toward the West European level.

### B. Growth of Fertilizer Consumption

Most of the East European countries did not turn seriously toward increased use of fertilizers until the late 1950's, but since then they have made tremendous progress. Table 21 shows that by 1963-68, consumption of fertilizers per unit of land was getting closer to the West European level in most East European countries. Czechoslovakia and East Germany already had extremely high levels of fertilizer use; in fact they exceeded the West European level by 1.5 to over 2.0 times and that of Eastern Europe by about three times in the 1963-68 period. Bulgarian, Polish and Hungarian consumption per hectare were getting close to the level of Western Europe, and they were at about the average for Eastern Europe in the same period.

TABLE 21.—CONSUMPTION OF COMMERCIAL FERTILIZERS PER HECTARE OF AGRICULTURAL LAND

	Nitrogen (N), phosphate (P <sub>2</sub> O <sub>5</sub> ) and potash (K <sub>2</sub> O) in kilograms per hectare		Total Eastern Europe = 100		Indexes of fertilizer consumption per hectare (1963-68 = 100)	
	1963-68	1973-76 <sup>1</sup>	1963-68	1973-76 <sup>1</sup>	1963-68	1973-76 <sup>1</sup>
	Bulgaria.....	79	105	118	76	100
Czechoslovakia.....	117	214	175	154	100	183
East Germany.....	201	287	300	206	100	143
Hungary.....	61	204	91	147	100	334
Poland.....	64	175	96	126	100	273
Romania.....	22	69	33	50	100	314
Yugoslavia.....	33	48	49	35	100	145
Countries with socialized agriculture.....	81	155	121	112	100	191
Countries with private agriculture.....	51	121	76	87	100	237
Total:						
Eastern Europe.....	67	139	100	100	100	207
Western Europe.....	85	176	127	127	100	207

<sup>1</sup> Data for 1976 are preliminary.

Sources: Calculated from statistical yearbooks of respective countries and FAO yearbooks and monthly statistical bulletins.

The consumption of fertilizers between 1963-68 and 1973-76 has been expanding at the fastest rate in Hungary, Poland and Romania, increasing about three times, followed by Czechoslovakia, Yugoslavia, East Germany and Bulgaria in descending order.

East Germany, Czechoslovakia, Hungary and Poland were the highest users of fertilizers per hectare of agricultural land in Eastern Europe. Their respective annual consumption was 287, 214, 204 and 175 kilograms per hectare in the 1973-76 period. Bulgaria, one of the lowest users of fertilizers in the 1950's, also became a high user with an annual consumption of 105 kilograms in the 1973-76 period. Czechoslovakia, East Germany and Hungary exceeded the West European consumption level by 22, 63 and 16 percent, respectively, in the 1973-76 period. Poland achieved an average level of 175 kilograms per hectare, or the same as in Western Europe, while Romania and Yugoslavia remained the lowest users with 69 and 48 kilograms per hectare annually in the same period.

The countries with socialized agriculture had fertilizer consumption per unit of land 59 percent higher than the countries with private agriculture in the 1963-68 period. That margin, however, was reduced to about 28 percent by 1973-76.

Eastern Europe as a whole compares quite favorably in fertilizer consumption with Western Europe. In relation to the United States, however, where the consumption of fertilizer was 968 kilograms per hectare in 1975,<sup>11</sup> there is plenty of room for increase in consumption toward equality. Nevertheless, this heavily increased application of fertilizers already has paid off with significantly increased yields in Eastern Europe.

### *C. Scientific Methods on the Farm*

The adoption of high-yielding crop varieties and livestock breeds helped to increase yields per unit of input in all the East European countries. Research on improvement of seeds has been stepped up by the agricultural research institutes, partly under the coordination of the Council for Economic Mutual Aid's Permanent Commission on Agriculture. A significant increase in wheat yields has been attributed to the introduction of improved Soviet hard wheat varieties (Mironovskaya-808, Bezostaya-I, Kavkaz and Aurora) during 1966-76. These wheat strains were sown on more than 70 percent of the wheat area in Czechoslovakia, East Germany and Hungary, and on more than 85 percent in Bulgaria in recent years. Also, hybrid varieties of corn and better strains of barley, rye and oats were introduced. The development of improved breeds of livestock has contributed to increased yields of milk per cow, eggs per hen, higher dressing rates of livestock, leaner types of animals, and higher daily gains in liveweight for all livestock. New breeds of livestock are being imported from Western Europe and the USA, especially by Hungary and Yugoslavia.

Irrigation and drainage of agricultural land on a large scale is increasing the productivity of land in all East European countries. Technological knowledge has been disseminated through rapidly increasing numbers of agricultural technical institutes and agricultural colleges. The number of trained agronomists has increased several times in every East European country. Application of more advanced farming methods undoubtedly has contributed to the higher productivity of land and labor in Eastern Europe.

The recent development of agro-industrial complexes is increasing the overall efficiency of agriculture through local processing of agricultural products, employing seasonally idle agricultural labor, and diffusing technical knowledge in rural areas of Eastern Europe.<sup>12</sup>

### *D. Investment in Agriculture*

The recent growth of gross fixed agricultural investment and its share in total investment in Eastern Europe is shown in table 22. These investment series should be interpreted with care, assuming a considerable margin of error, because for some of these countries not enough is known about the prices of investment goods, and the terms of measurement vary from country to country. Yet, despite their shortcomings, these series may give us a general picture of trends in investment in the recent years.

<sup>11</sup> See U.N. FAO, "Production Yearbook, 1975," pp. 24 and 287.

<sup>12</sup> See *Zemelska ekonomika*, 1976, No. 6, pp. 405-414.

Throughout Eastern Europe there has been a substantial increase in agricultural investment, generally with the less developed countries showing the greater increases: Romania, Yugoslavia, Poland, Hungary and Bulgaria experienced high increases in investment in both periods (1966-70 and 1971-75), shown in table 22. In comparison to West Germany, all of the East European countries seemed to have a much higher rate of investment in recent years. However, West Germany, despite her low increase in investment, improved her performance in agriculture substantially (tables 13 and 14).

TABLE 22.—GROSS FIXED AGRICULTURAL INVESTMENT AND ITS SHARE IN THE TOTAL INVESTMENT

	Indexes of gross fixed agricultural investment (1961-65=100) (1966-70=100)		Agriculture's share in the total investment (percent)	
	1966-70	1971-75	1966-70	1971-75
Bulgaria <sup>1</sup> .....	139	140	16.3	15.8
Czechoslovakia <sup>2</sup> .....	103	139	11.1	10.8
East Germany <sup>3</sup> .....	162	121	14.1	12.6
Hungary <sup>4</sup> .....	182	143	15.9	13.0
Poland <sup>5</sup> .....	170	163	16.1	13.7
Romania <sup>6</sup> .....	153	149	15.6	14.0
Yugoslavia <sup>7</sup> .....	152	162	9.2	9.3
West Germany <sup>8</sup> .....	96	109	3.4	2.4

<sup>1</sup> State and collective farms investment in leva at 1962 and 1971 prices.

<sup>2</sup> Total investment in agriculture in crowns at 1967 prices.

<sup>3</sup> Agriculture includes forestry; investment in marks at 1967 prices.

<sup>4</sup> Investment in forints at 1968 prices.

<sup>5</sup> Investment in zlotys at 1971 prices.

<sup>6</sup> Investment in lei at 1963 prices.

<sup>7</sup> Investment, including private farming, in dinars.

<sup>8</sup> Investment in constant 1962 West German marks.

Sources: Calculated from statistical yearbooks of respective countries (see app. A).

Agricultural investment may be usefully related to total investment and then compared with agriculture's share in total GNP. These relationships are shown in table 22 and table 1. We notice that agriculture's share in total investment was relatively low, from 9 to 16 percent, depending on country, in the 1966-70 period. On the other hand, the contribution of agriculture to the total GNP was over two times as large as the investment share in Romania, Bulgaria and Yugoslavia, almost two times as large in Poland, about 59 percent larger in Hungary and Czechoslovakia, and 11 percent larger in East Germany in the 1966-70 period.

In the subsequent 1971-75 period, agriculture's share in total investment had a general tendency to decrease from a fraction of one percent in Bulgaria and Czechoslovakia to a maximum decrease of 2.9 percent in Hungary. However, the difference between agriculture's share in total investment and its share in GNP has shrunk. In East Germany, agriculture's share in total investment exceeded its share in GNP. In the still predominantly agricultural countries, Yugoslavia and Romania, the ratio of agriculture's investment share to its GNP share is below one-half. This would seem to suggest that agriculture is partly financing industrialization in these countries. In the final analysis, this ratio reflects governmental price and taxing policies towards agriculture.

It is to be noted that the Soviet Union allocated 26.2 percent of total investment to agriculture in the 1971-75 period.<sup>13</sup> This is a higher

<sup>13</sup> See David W. Carey, "Soviet Agriculture: Recent Performance and Future Plans," In U.S. Congress Joint Economic Committee, "Soviet Economy in a New Perspective," p. 590.

percentage than in any other East European country for the same period.

### VIII. SIZE COMPARISONS OF OUTPUT BETWEEN EASTERN EUROPE, USSR, WESTERN EUROPE, AND USA

In this section we summarize our finding of size comparisons of agricultural output between Eastern Europe, the USSR, Western Europe, the USA, and individual countries for selected periods in terms of international wheat units (table 23).

TABLE 23.—COMPARISONS OF LEVELS OF AGRICULTURAL OUTPUT AND AGRICULTURAL OUTPUT PER CAPITA: EAST EUROPEAN COUNTRIES, U.S.S.R., WESTERN EUROPE, AND UNITED STATES

[In percent, United States=100]

	Total agricultural output			Agricultural output per capita		
	1966-70	1971-75	1976 <sup>1</sup>	1966-70	1971-75	1976 <sup>1</sup>
Bulgaria.....	3.4	3.3	3.0	80.6	79.9	74.5
Czechoslovakia.....	4.4	4.5	4.1	61.6	65.4	58.7
East Germany.....	5.6	5.6	5.0	66.1	69.9	63.8
Hungary.....	4.1	4.4	3.9	79.8	89.2	79.8
Poland.....	11.8	12.4	11.2	73.6	78.4	70.3
Romania.....	5.5	5.9	6.2	56.5	59.3	62.4
Yugoslavia.....	5.7	5.7	5.6	57.6	57.4	55.8
Countries with socialized agriculture.....	22.9	23.8	22.2	66.0	69.9	66.0
Countries with private agriculture.....	17.6	18.2	16.8	67.5	70.3	64.7
<b>Total Eastern Europe.....</b>	<b>40.5</b>	<b>41.9</b>	<b>39.1</b>	<b>66.6</b>	<b>70.1</b>	<b>65.4</b>
U.S.S.R.....	74.9	74.3	64.5	63.1	62.6	54.0
Western Europe.....	86.3	86.0	76.5	52.7	53.3	47.6
United States.....	100.0	100.0	100.0	100.0	100.0	100.0

<sup>1</sup> Preliminary.

Sources: Calculated from physical quantities weighted by FAO Eastern European and Soviet Union wheat-based price relatives for the 1961-65 period for Eastern Europe and the Soviet Union; for Western Europe, the Western European FAO wheat-based price relatives for the 1961-65 period were used as weights; and for the United States, the North American FAO wheat-based price relatives for the 1961-65 period were used as weights. Physical quantities and population data were taken from statistical yearbooks of the respective countries (see bibliography and app. A). The FAO wheat-based price relatives for the 1961-65 period were taken from: United Nations, Food and Agriculture Organization, "Production Yearbook, 1975" Rome, 1976, pp. 470-471.

From 1966-70 to 1971-75 the relative magnitude of output of most East European countries and of Eastern Europe as a whole in comparison to the USA increased somewhat, because the agricultural output in those countries increased at a slightly higher rate than in the USA. The USSR and West European magnitudes, however, declined slightly. In 1976, the magnitudes of all countries decreased in comparison with the USA. East European agricultural output declined from 42 percent of the US output in 1971-75 to 39 percent in 1976, that of the USSR from 74 to 65 percent, and that of Western Europe from 86 to 77 percent of the USA because the USA had an above-average and the other countries a below-average 1976 harvest year. Other authors show similar relative sizes of the US and USSR outputs (USSR as percent of USA 77 in 1966-70 and 75 in 1971 when both are valued in 1968 ruble prices).<sup>14</sup>

International comparisons of output per capita provide better measures of relative self-sufficiency than comparisons of total agricultural output. In most years, the agricultural output of the USSR

<sup>14</sup> See F. Douglas Whitehouse and Joseph F. Havelka, "Comparison of Farm Output in the U.S. and USSR, 1950-1971," U.S. Congress, Joint Economic Committee, "Soviet Economic Prospects for the Seventies, A Compendium of Papers," U.S. Government Printing Office, 1973, p. 358. The authors also give a comparison in constant 1957-59 dollars, which yields a higher magnitude for the USSR than the comparison in rubles.

and that of Eastern Europe is not fully sufficient in providing an adequate food supply to that region's population, while the United States' agricultural output is more than adequate in providing a high level of nutrition to its population. Hence comparing the per capita levels of agricultural output in terms of the US per capita output will provide a rough measure of the degree of "self-sufficiency" if we assume that the US level of per capita output is about 20 percent above the norm of an adequate food supply.<sup>15</sup> The per capita levels of agricultural output in different countries in terms of the USA equals 100 for 1966-70, 1971-75 and 1976 are given in table 23.

These per capita levels indicate that the USSR produced roughly 63 percent of the output of the United States in the 1966-1975 period and only 54 percent in 1976, which is clearly inadequate if we consider 80 percent of the US level to be the norm for an industrial society.

Eastern Europe as a whole shows a more favorable per capita level of output than the Soviet Union. In the 1971-75 period it produced roughly 70 percent as much agricultural output per capita as the United States. This level represented an increase of 3 percentage points from 67 percent in the previous 1966-70 period. In 1976 the level dropped, however, to a little over 65 percent of the USA's because of poor harvests in Eastern Europe and an above-average harvest in the United States. The per capita levels of output in Eastern Europe in comparison to the United States, and even more so vis-a-vis the Soviet Union, were improving in the 1971-75 period as compared to the previous 1966-70 period. Both groups, socialized and private agriculture, seem to be on a par in per capita levels of output during the period under study.

As for the individual countries, the highest per capita level in the 1971-75 period was achieved in Hungary, with 89 percent of the US level, followed by Bulgaria, with 80 percent, Poland with 78 percent, East Germany with 70 percent, Czechoslovakia with 65 percent, and at the bottom, Romania and Yugoslavia with 59 and 57 percent, respectively. If we refer to the norm given above (80 percent of US output per capita equals self-sufficiency), only Hungary would seem to have about 10 to 12 percent of her output available for export while providing adequate food for the domestic population. Bulgaria and Poland seem to be just about self-sufficient, while East Germany, Czechoslovakia, Romania and Yugoslavia would be considered to have 13 to 28 percent deficits in domestic output if they were to maintain roughly the US food consumption level.

Western Europe seems to be the most deficient region in per capita food supply, producing only a little over one-half as much as the USA. About one-third of Western Europe's food requirements would have to be imported if the US consumption level were the norm.

The above comparisons of levels are affected by the composition of output and prices in various countries, which in turn reflect differences in natural resources, levels of income, tastes and governmental agricultural policies. Although they are very crude indicators of relative sizes of levels of per capita output between selected countries and regions, they seem to show clearly that the domestic output of food in Eastern Europe as a whole, and even more so in the Soviet

<sup>15</sup> For the 1971-75 period, in the USA 92 percent of agricultural output was consumed domestically after subtracting net agricultural exports from total output (see U.S. Department of Agriculture, "Agricultural Statistics, 1975," pp. 481, 576, and "Survey of Current Business," 1976, No. 12, p. 36). However, it is believed that U.S. consumption levels are more than adequate, and we reduce it to 80 percent as a fair norm for illustrative purposes.

Union, was deficient by some 12 to 22 percent in the 1971-75 period if the US norm were to be maintained. In 1976 this deficiency was even larger because of poor harvests in most East European countries.

## IX. CONCLUSION AND OUTLOOK

Some tentative conclusions on the recent performance of East European agriculture may be summarized as follows:

(1) Agricultural performance as reflected in our measures has been uneven among the East European countries and over the period under study. Agricultural output in the 1965-70 period experienced a slow rate of growth of about 2 percent per year on the average in Eastern Europe as a whole, and for both the socialized and private groups of agriculture. In the 1971-75 period, output grew at an average rate of 4.1 percent for the whole region, or about double the rate for the previous five years in both groups of countries. In Hungary and Romania output has expanded most rapidly of all the countries, followed by Yugoslavia, Czechoslovakia and Poland. In Bulgaria and East Germany, output grew sluggishly between 1965 and 1976 (see table 2).

(2) Poland and Yugoslavia, as a group with predominantly private agriculture, had a growth performance in most production measures equal to or better than that of the group of countries with socialized agriculture. Some advantage of private agriculture over socialized agriculture seems to have continued up to the present (see tables 2 and 3).

(3) In terms of gross and net product (i.e., agriculture's contribution to GNP and NNP), the group of countries with private agriculture surpassed the group of countries with socialized agriculture by a comfortable margin.

Between 1965 and 1976 the former group, with small-scale, private farming, enjoyed increases of 18 and 14.8 percent in gross and net product, respectively, while the latter group, with large-scale, mechanized socialized farming, attained 15.6 and 7.6 percent increases of gross and net product, respectively (see table 3).

(4) Since the countries with socialized agriculture had allocated large quantities of non-agricultural inputs to agricultural production but had smaller increases in gross product and net product than those with private agriculture, they probably have used their productive resources less efficiently than the group with private agriculture.

(5) The better performance of the countries with private agriculture over the countries with socialized agriculture is evident in several growth measures. The countries with private agriculture exceeded or lagged behind (-) the performance measures of the countries with socialized agriculture between 1965 and 1974-76 as follows:

In:	By margin of (percent)
Crop output.....	4.5
Animal output.....	-4.5
Gross product.....	2.3
Net product.....	6.5
Crop output per capita.....	1.2
Animal output per capita.....	-7.5
Net product per capita.....	3.1
Agricultural output per unit of land.....	0.9
Gross product per unit of land.....	4.5
Net product per unit of land.....	8.7

(6) Progress in mechanization of agriculture has been very impressive in Eastern Europe, but its level, except in Czechoslovakia and East Germany, is still behind that of Western Europe. Yugoslavia and Romania have the lowest levels of mechanization. However, the application of commercial fertilizers is in general close to the West European level, and in Czechoslovakia, East Germany and Hungary the use of fertilizers per hectare of land is higher than in Western Europe as a whole. Hungary, Poland and Romania saw the greatest expansion in the use of fertilizers in the period under review.

(7) The introduction of higher-yielding varieties of wheat, corn, barley, rye and oats along with the increased use of fertilizers brought rapidly increasing yields per unit of land in all the East European countries. Livestock yields are being increased by importing high-producing breeding stock from the USA and Western Europe, especially by Hungary.

(8) Considerably greater emphasis has been placed on animal output in recent years in order better to satisfy rapidly increasing demands for products of animal origin in all the East European countries. Yields per unit of livestock have increased significantly in the last 10 years.

(9) All the East European governments are putting increasingly stronger emphasis on increasing agricultural output and the productivity of land and labor. To effect this, they are channelling more resources into agriculture in the form of increased investment in machinery and equipment, land irrigation, better technology on farms, technical education, more flexibility and incentives to managers of farms, and pricing systems more responsive to changing scarcities, especially as shown in sharply increased prices paid to farmers, and increased fringe benefits.

(10) An international comparison of agricultural outputs shows that Eastern Europe as a whole accounted for about 61 percent as much output as the USSR and about 39 percent as much as the USA in 1976. In turn, the USA's output was about 55 percent larger than that of the USSR in 1976. In terms of per capita levels of agricultural output, the USA ranks the highest, followed by Hungary, Bulgaria, Poland, East Germany, Romania, Czechoslovakia, Yugoslavia and the USSR, in descending order for 1976.

(11) On the basis of the above overall growth performance measures, one is led to a conclusion that thus far socialized agriculture in the countries of Eastern Europe has not lived up to the expectations of their communist governments for higher growth rates in production and in productivity than private family farming could achieve. Our comparisons of socialized versus private farming in Eastern Europe do not show better overall results for the former.

(12) The findings of this study afford a critique of agricultural systems in Europe. With the evident trend toward rational use of resources in Eastern Europe, readers there, as elsewhere, may want to ponder the significance of the systems as influences on productivity. Their concern with agricultural efficiency has prompted them to decentralize to some degree, to try to rediscover the springs of motivation through higher producer prices, higher profit, and other personal incentives. Scarce foreign exchange has been allocated to importing advanced agricultural technology. Agriculture remains a critical sector in Eastern Europe in view of the rising populations

and the sharply increasing demand for more and higher quality, protein-rich foods of animal origin.

After a relatively poor agricultural year for most of the East European countries in 1976, the outlook for the remaining part of this decade appears favorable, particularly for 1977. Mild temperatures and above normal precipitation during the past two months have brought soil moisture to normal levels throughout the region except parts of East Germany and Bulgaria, which have moisture deficit owing to last year's severe drought.<sup>16</sup> Barring adverse weather developments in the next few months, there should be a sharp rebound in agricultural production from last year's depressed levels (experienced in all countries except Romania and Yugoslavia).

The official gross agricultural production plans for 1977 are quite optimistic, but the five-year plans for 1976-80 are perhaps more realistic. Table 24 summarizes the officially reported gross production results for the past two five-year plan periods and the average growth rate targets for the 1976-80 five-year plans.

TABLE 24.—RATES OF GROWTH OF GROSS AGRICULTURAL PRODUCTION, PLANNED AND ACTUAL, 1966-80, AS OFFICIALLY REPORTED

[Average annual rates of growth; percent]

	1966-70 <sup>1</sup> actual	1971-75 <sup>1</sup>		1976-80 <sup>1</sup> planned	1976		1977 planned
		Planned	Actual		Planned	Actual <sup>2</sup>	
Bulgaria.....	4.7	3.2-3.7	2.2	3.7	5.0	3.1	4.0
Czechoslovakia.....	3.5	3.2-7	2.9	2.6-2.8	4.5	-2.7	8.2
East Germany.....	1.5	4.2, 4	2.2	4.2, 4	1.4	-9.8	2.8
Hungary.....	3.0	2.8-3.0	3.4	3.2-3.4	4.0	-3.0	7.0-8.0
Poland.....	2.9	3.6-3.9	3.1	2.8-3.0	5.9	-8	5.3
Romania.....	4.2	6.3-8.3	4.6	5.1-7.6	15.0-27.0	17.2	1.9-13.6
Total Eastern Europe.....	3.1	3.5-4.0	3.1	3.3-3.8	5.8	1.1	4.8
U.S.S.R.....	3.9	3.7-4.0	2.5	2.6-3.2	9.4	4.0	7.8

<sup>1</sup> Change in the 5-yr average production from the average of the preceding 5 yrs, expressed as annual compound rate.

<sup>2</sup> Preliminary.

<sup>3</sup> Average annual compound rate between terminal years.

<sup>4</sup> Production and services of the agricultural sector and food industry.

<sup>5</sup> Represents the decline in net material product of agriculture (national income of agriculture).

Sources: National plans and plan fulfillment reports of respective countries published in statistical bulletins of these countries; and "Supplement to World Economic Survey, 1975, Fluctuations and Development in the World Economy, Chapter II, Problems and Policies in the Centrally Planned Economies," United Nations, New York, 1976, p. 65.

Czechoslovakia and Hungary overfulfilled their 1971-75 production plans, but all the other countries including the Soviet Union failed to reach their planned targets. Eastern Europe as a whole reported a 3.1 percent average annual rate of growth in gross agricultural production which fell short of the 3.5-4.0 percent planned.

For 1976-80, the planned growth rates for gross agricultural production were set at about the same levels as for 1971-75. Bulgaria and Hungary set slightly higher goals, and Poland and Romania somewhat lower. The planned 1976-80 average annual rate of growth for Eastern Europe as a whole is 0.2 percent lower than that planned for 1971-75, but about 0.4 percent higher than the 3.1 percent realized in that period.

What are the prospects for the 3.3-3.8 percent planned 1976-80 average annual rate of growth of gross agricultural production in

<sup>16</sup> See U.S. Department of Agriculture, "News", March 18, 1977, p. 6.

Eastern Europe? Because of adverse weather, all countries except Romania have fallen far behind the target rate for 1976 by several percentage points. The plan called for a 5.8 percent average increase but the reported actual increase was only 1.1 percent. The targets for 1977 are set roughly at the same level as for 1976 for Eastern Europe as a whole. This suggests that the planners are still hoping to meet their 1976-80 goals.

Success in this endeavor will depend on two major factors: weather and continuation of increased supply of resources to agriculture. The weather cannot be planned, but even if we assume that it will prove more favorable than the average past experience, increased inputs into agriculture will be required to fulfill the production plans.

Since emphasis in the current plans is on increases in livestock production to meet increasing domestic demand for meat and dairy products, Eastern Europe confronts an insufficient domestic feed base that has to be supplemented by sharply increased imports of feed grains, oilcake meal, soybeans and other protein concentrates in order to fulfill production plans.<sup>17</sup> Eastern Europe in recent years has become increasingly dependent upon regular imports of feedstuffs. The net imports of feed grains rose from 2.1 million metric tons in 1970-71 to 7.2 million tons in 1976-77,<sup>18</sup> and imports of oilseed cake, soybeans and soybean meal increased from 3.4 million tons to 6.3 million tons in the same period.<sup>19</sup> Such imports must be increased if the livestock production plans are to be met. Since most of the suppliers of these feeds are hard currency countries (USA, Canada, Australia, and South America), Eastern Europe will face difficult choices in allocating their limited hard currency flows to finance increasing feed imports. The East European countries have steadily and increasingly relied upon imports of feed grain, oil cake, soybeans, soybean meal, feed concentrates, vitamin supplements, and breeding stock from North America, Australia, Latin America, and other countries. Given East European expectations for an increased supply of meat, this trend is expected to continue. Finally, an important requirement for improved performance of agriculture is the continuing provision of a variety of production incentives to farmers but on a larger scale than in the past.

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<sup>17</sup> See *Foreign Agriculture*, November 8, 1976, pp. 8-9; *ibid*, January 10, 1977, pp. 2-4; and *ibid*, August 9, 1976, pp. 5 and 12.

<sup>18</sup> U.S. Department of Agriculture, Foreign Agricultural Service, "Foreign Agriculture Circular: Grains," March 23, 1977, p. 22.

<sup>19</sup> "Foreign Agriculture," January 10, 1977, p. 4.

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## APPENDIX A. NOTES AND SOURCES TO TABLES 1 TO 24

1965-76

All quantity series and national prices needed for the construction of tables 1 to 24 were taken from publications published by the Research Project on National Income in East Central Europe, Columbia University, Riverside Research Institute (RRI), and L.W. International Financial Research (LWIFR), as follows:

Bulgaria.—Gregor Lazarcik and Wassyl Znayenko, "Bulgarian Agricultural Production, Output, Expenses, Gross and Net Product, and Productivity, 1939 and 1948-1967," OP-32, R.R.I, 1970.

Gregor Lazarcik, "Bulgarian Agricultural Production, Output, Expenses, Gross and Net Product, and Productivity at 1968 Prices, 1939, and 1948-1970," OP-39, 1973 (updated to 1976). R.R.I and L.W.I.F.R., New York.

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Poland.—Andrzej Korbonski and Gregor Lazarcik, "Polish Agricultural Production, Output, Expenses, Gross and Net Product, and Productivity, 1934-38, 1937 and 1946-1970," OP-37, 1972 (updated to 1976). R.R.I, New York.

Romania.—Gregor Lazarcik and George Pall, "Romania: Agricultural Production, Output, Expenses, Gross and New Product, and Productivity, 1938 and 1948-1971," OP-38, 1973 (updated to 1976). R.R.I and L.W.I.F.R., New York.

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#### NOTE FOR 1976

Our indexes for 1975 (weighted by wheat-based price relatives for 1961-65) were extended to 1976 by means of crop output indexes, animal products output indexes and agricultural production indexes for individual countries calculated from plan fulfillment reports of respective countries for 1976 published in January and February 1977 issues for Bulgaria: "Rabotnichesko delo," Sofia, daily; for Czechoslovakia: "Rude pravo," Prague, daily, and "Hospodarske noviny," Prague, weekly; for East Germany: "Neues Deutschland," Berlin, daily, and "Die Wirtschaft," Berlin, weekly; for Hungary: "Nepszabadsag," Budapest, daily, and "Magyar Nemzet," Budapest, daily; for Poland: "Trybuna ludu," Warsaw, daily, and "Zycie gospodarcze," Warsaw, weekly; for Romania: "Elоре," Bucharest, daily, and "Scinteia," Bucharest, daily; for Yugoslavia: "Borba," Belgrade, daily; for U.S.A.; "Survey of Current Business," 1977, Nos. 1-2; for U.S.S.R.: "Pravda," Moscow, daily.

#### APPENDIX B. METHODOLOGICAL NOTES

The definition of agriculture as an economic sector and the concepts and definitions of output and input measures used in this study have been set forth in detail in an earlier study of East European agriculture presented to the Joint Economic Committee of the U.S. Congress in 1970. (See Gregor Lazarcik, Compendium 1970, pp. 467-472.) Perhaps only a very brief summary of the methodology used here may be in order for the benefit of the reader.

Forestry, fishing and hunting are not included in agriculture, as may be the case in some U.N. statistics. The coverage of our data ranges from 95 percent to almost 100 percent of agricultural output, depending on the country. Our measures of output and inputs are based on physical quantity series consisting of from 70 to over 100 individual products for each country. Since the official output and input

measures sometimes differ from those used by international organizations, or are not published, an independent, uniform calculation of all important measures was made by the Research Project on National Income in East Central Europe in New York in accordance with standard international definitions. These measures are presented in this study.

*Pricing system.*—The best available uniform price weights to facilitate international comparisons of East European countries are the newly calculated wheat-based price relatives for Eastern Europe and the USSR for 1961–65 devised by the Food and Agriculture Organization of the United Nations for the calculation of regional and world agricultural production. These Eastern European price-weights were used in this study for the aggregation of agricultural output. These price relatives for agricultural products are the arithmetic averages of all the national wheat-based price relatives weighted by the respective country's production of the farm products concerned. The national wheat-based price relative consists of the national producer price of the product expressed as a percentage of the national producer price of an equal weight of wheat. For most products the prices are weighted averages of producer prices for the 1961–65 period. (See U.N. Food and Agriculture Organization, *Production Yearbook 1975*, vol. 29, Rome, 1976, pp. 469–471).

Other measures (i.e., operating expenses, gross product, depreciation, and net product of agriculture) were derived from output (calculated in wheat-based price relatives for 1961–65) on the basis of percentage relationships of these measures for each country and each year calculated in each country's constant prices paid to or by producers for their products or production inputs. (The national price weights used were as follows: Bulgaria, 1968 leva; Czechoslovakia, 1970 crowns; East Germany, 1965 marks; Hungary, 1970 forints; Poland, 1970 zlotys; Romania, 1970 lei; and Yugoslavia, 1964 dinars.) This system of valuation takes into account the differences in relative scarcities in each country, and at the same time it permits international comparisons in terms of uniform wheat-based price relatives for all countries.

The index numbers of various output and input measures are computed by a modified Laspeyre's formula (the formula is  $\frac{\sum P_k Q_i}{\sum P_k Q_k}$ , where  $P_k$  represents the selected constant prices,  $Q_k$  the quantities of the base year, and  $Q_i$  the quantities of the given year) using the FAO Eastern European wheat-based price relatives as weights. The time comparison base period chosen in this study is the year 1965.

*Agricultural output.*—In this study agricultural output is defined as end-use output from agriculture available for human consumption and industrial use, plus changes in livestock, and farm investment in kind by farmers' own efforts. The same concepts are used by the U.N. economic organs to calculate agricultural output in Western Europe and by the OECD member countries. In this study the output of agriculture is calculated by subtracting from gross crop and animal production all intermediate products utilized on farms in further production. The physical quantities of output are then aggregated by the FAO wheat-based weights. (The weights are given with some adjustments in G. Lazarcik, *Compendium 1974*, pp. 388–389.)

*Expenses and depreciation.*—Current operating expenses are defined here as the total quantity of all goods and services bought by the agricultural sector from all non-agricultural sectors and from abroad and used up in the production of agricultural output. Depreciation is here defined and calculated as the current charge to take account of wear, tear and obsolescence of capital goods serving agriculture. (See U.N. Economic Commission for Europe, *Agricultural Sector Accounts and Tables, A Handbook of Definitions and Methods*, Geneva, 1956, p. 10, and Organization for European Economic Cooperation, *The Measurement of Agricultural Production and Food Consumption*, Paris, 1955, p. 15.)

*Gross product and net product.*—The gross product of agriculture is the gross value added by productive activity within the agricultural sector. It is the contribution of the agricultural sector to gross national product (GNP). In this study it is obtained from agricultural output by subtracting current operating expenses. The net product of agriculture is the gross product minus depreciation. It is the contribution of the agricultural sector to the net national product (NNP) or net value added by the agricultural sector. For the years after 1970, the expenses, gross and net product were calculated by a short cut method described in detail in *OP-48*, pp. 74–93 and *OP-49*, notes to tables 1 to 6.

# RECENT DEVELOPMENTS IN ORGANIZATION AND MANAGEMENT OF AGRICULTURE IN EASTERN EUROPE

BY EVERETT M. JACOBS\*

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Since the end of the Second World War, Eastern European agriculture has gone through a number of phases of development that have encompassed virtually the whole area. The late 1940s and early 1950s saw the collectivization of agriculture along Soviet lines in most Communist countries. This process was for the most part completed by the early 1960s, although by then Yugoslavia and Poland had abandoned collectivization as a policy. The next phase was a movement, continued to the present, to amalgamate small farms into larger units in order to improve central control, facilitate mechanization, reduce administrative staff, and, it was hoped, benefit from the economies of scale. The mid and late 1960s saw the introduction of economic reforms in East European agriculture in an effort to improve efficiency, primarily through the use of economic incentives (mainly in price policy and bonuses), simplified central control, and greater agricultural investments.<sup>1</sup>

The current phase of development in East European agriculture involves revisions and modifications to the economic reforms.<sup>2</sup> At the same time, it includes attempts, dating from the early 1970s, to introduce some form of economic integration between farming enterprises and/or between agriculture and industry. The purpose of this study is to examine recent developments in the organization and management of the socialist sector of agriculture, especially as they relate to agricultural integration, in Bulgaria, Czechoslovakia, East Germany, Hungary and Rumania.<sup>3</sup>

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<sup>1</sup> For further details, see Everett M. Jacobs, "Ownership and Planning in Soviet and East European Agriculture," in Peter J. Wiles, ed., *The Prediction of Communist Economic Performance* (London, 1971), pp. 39-86.

<sup>2</sup> See Everett M. Jacobs, "Organization and Management of Agriculture in Eastern Europe, 1967-1974," in Zbigniew M. Fallenbuchl, ed., *Economic Development in the Soviet Union and Eastern Europe, Volume 2: Sectoral Analysis* (New York, 1976), pp. 284-305.

<sup>3</sup> Poland and Yugoslavia have been omitted because of the minor role of the socialist sector of agriculture in those countries; Albania, because of scarcity of information.

## FARM SIZES

It is clear from Table 1 that changes in the number of state or cooperative (collective) farms in Eastern Europe in recent years have had little or no effect on the proportion of each country's arable area occupied by one or the other kind of farm, except in Bulgaria and, within the cooperative sector, East Germany. In Bulgaria, the decision in November 1973 to make the agro-industrial complex (APK) into the basic economic and social organization in the countryside<sup>4</sup> has in practice all but negated the significance of cooperative and state farms. As explained below, the APK is a form of horizontal integration which unites cooperative farms, state farms, or both cooperative and state farms. In the first stage, the constituent farms retain much of their former independence. However, as the APK develops, responsibilities are transferred to the APK management, which eventually assumes full legal and economic control over all member farms of the complex.<sup>5</sup> When an APK becomes "unified", the component farms lose their autonomy and become branch or sub-farms of the APK. By the end of 1975, 83 APKs, or more than half the total number, had become unified,<sup>6</sup> meaning that many of the existing state and cooperative farms were no longer separate economic units. In 1974, the APKs and other forms of integration accounted for 84.5% of the country's arable area, seemingly indicating that not all the cooperative and state farms were yet members of complexes.<sup>7</sup> Before the creation of the complexes, Bulgarian state and cooperative farms had always been among the largest in Eastern Europe, but now, in the form of APKs, averaging almost 21,500 ha. of arable land, they are six times the size of Soviet collective farms (which in 1975 averaged 3,571 ha. of arable land) and 3.3 times the size of Soviet state farms (6,494 ha. of arable land). The Bulgarian experiment is therefore of obvious interest to the other Communist countries.

<sup>4</sup> *Ekonomika sel'skogo khozyaistva*, no. 11 (1974), p. 115.

<sup>5</sup> Paul Wiedemann, "The Organisation of Bulgarian Agriculture," a study forming part of the Ford Foundation Project on "The Organisation and Comparative Efficiency of Soviet and East European Agriculture" (Glasgow, 1976), mimeograph, p. 19.

<sup>6</sup> *Novo Vreme*, no. 2 (1976), p. 43.

<sup>7</sup> The socialist sector covered 90.3% of arable land in Bulgaria in 1972 (Jacobs, "Organization and Management . . .," *op. cit.*, p. 285). The missing 5.8% of arable land presumably belongs to farms which have not yet joined APKs.

TABLE 1.—SELECTED STATISTICS FOR EAST EUROPEAN AGRICULTURE, 1967-74

	1967						1974							
	Sector's share of country's arable area (percent) <sup>1</sup>	Total number of farms	Average size of farm (hectares of arable land)	Average number of permanently active farmers/farm	Average arable area (hectares)/ 15-hp tractor unit <sup>1</sup>	Fertilizer consumption (kilogram)/ hectares of arable land	Sector's share of country's arable area (percent) <sup>1</sup>	Total number of farms	Average size of farm (hectares of arable land) <sup>1</sup>	Average number of permanently active farmers/farm	Average arable area (hectares)/ 15-hp tractor unit <sup>1</sup>	Fertilizer consumption (kilogram/ hectares of arable land)		
<b>Bulgaria:</b>														
State farms.....	12.5	151	3,446	<sup>2</sup> 949	58	} 56	NA	<sup>3</sup> 130	<sup>4</sup> 21,488	<sup>5</sup> 6,524	<sup>6</sup> 7.33	138		
Cooperative farms.....	79.5	866	3,808	<sup>6</sup> 1,236	56		NA	<sup>3</sup> 462						
<b>Czechoslovakia:</b>														
State farms.....	20.7	344	3,038	570	25	} 24	184	20.5	290	3,476	568	} 21	316	
Cooperative farms <sup>10</sup> .....	64.6	6,395	509	<sup>2</sup> 112	24		66.9	3,619	907	<sup>5</sup> 185	<sup>8</sup> 19			<sup>8</sup> 21
<b>East Germany:</b>														
State farms.....	6.8	650	668	<sup>11</sup> 114	40	} 46	290	7.2	489	923	NA	} 44	395	
Cooperative farms:														
Types I and II.....	24.2	7,129	216	<sup>12</sup> 36	NA	} 46	3.5	698	311	<sup>11</sup> 26		} 41	268	
Type III.....	61.6	5,944	658	<sup>12</sup> 104	NA		82.2	5,066	1,021	<sup>11</sup> 121				
<b>Hungary:</b>														
State farms.....	13.1	210	3,160	<sup>11</sup> 835	NA	} 52	97	12.9	152	4,233	1,063	} 41	268	
Cooperative farms.....	76.7	3,033	1,282	<sup>11</sup> 261	NA		80.0	1,918	2,076	461				
<b>Romania:</b>														
State farms.....	16.8	343	4,800	<sup>2</sup> 751	35	} 59	45	<sup>13</sup> 17.1	<sup>13</sup> 369	<sup>13</sup> 4,472	<sup>13</sup> 779	<sup>13</sup> 30	} 44	74
Cooperative farms.....	75.1	4,678	1,570	<sup>2</sup> 14,736	69		<sup>13</sup> 74.2	<sup>13</sup> 4,462	<sup>3</sup> 1,606	<sup>5</sup> <sup>13</sup> 14,772	<sup>6</sup> <sup>13</sup> 50			

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Sources: Statistical yearbooks.

<sup>1</sup> Including personal plots of farm members figures for East Germany related to agricultural land.

<sup>2</sup> Workers only.

<sup>3</sup> All of these farms are members of agro-industrial or industrial-agricultural complexes, and as a result, many have lost their economic and administrative independence.

<sup>4</sup> Data relate to agro-industrial and industrial-agricultural complexes, not farms.

<sup>5</sup> Not including independent MTS work force.

<sup>6</sup> Including tractors owned and operated by MTS (or equivalent).

<sup>7</sup> Based on country's entire arable area and total agricultural tractor park (15-hp units).

<sup>8</sup> Hectares agricultural land (all sectors) per physical tractor unit.

<sup>9</sup> As of Jan. 1, 1976.

<sup>10</sup> Excluding lower level cooperatives in Czechoslovakia and Hungary, and gardening cooperatives (GPG's) in East Germany.

<sup>11</sup> Including apprentices.

<sup>12</sup> Excluding apprentices.

<sup>13</sup> 1973.

In East Germany, the past few years have seen the rapid diminution, in terms of number and area, of the lower type cooperatives through their upgrading to Type III cooperatives, which resemble Soviet collective farms. The campaign against lower type cooperatives has been a feature of East German agriculture since the mid-1960s, and it now appears that lower type cooperatives will pass from the scene in the next few years. Between 1972 and 1974, the number of lower type cooperatives fell from 1,939 to 698, and their share of agricultural land, from 7.8 percent to 3.5 percent.<sup>8</sup> Because of gains in agricultural area from the upgraded lower farms (almost 1¼ million hectares since 1967), and because of simultaneous amalgamations, the Type III cooperatives have significantly increased in size. The average size of East German state farms has grown also as a result of amalgamations, but they remain by far the smallest state farms in Eastern Europe.

The data in Table 1 unfortunately do not give a clear indication of the scope of the recent amalgamation campaigns in Czechoslovakia and Hungary. In Czechoslovakia, amalgamations of farms have been accompanied by efforts to complete the collectivization of the central areas of Slovakia. The collectivization campaign in Slovakia between the end of 1971 and the end of 1975 added 140,529 ha. of agricultural land, of which 27,449 ha. were arable land, to the cooperatives of that republic. In the same period, concurrent amalgamations caused the number of cooperatives in Slovakia to fall from 1,774 to 991. By contrast, between the end of 1971 and the end of 1975, the number of cooperative farms in the Czech lands fell from 4,097 to 1,825 because of amalgamations, but the area they encompassed hardly grew. Looking at Czechoslovakia as a whole, the number of cooperative farms dropped by 883, to 2,736, between the end of 1974 and the end of 1975 because of amalgamations. At the end of 1975, the average arable area of a cooperative farm in Czechoslovakia was 1,199 ha. (1,233 ha. in Slovakia, and 1,182 ha. in the Czech lands). The number of state farms in Czechoslovakia also fell significantly in 1975 because of amalgamations. In the Czech lands, the number of such farms dropped by 39, from 213 to 174, while in Slovakia, the loss was only 1 farm. At the end of 1975, there were 250 state farms in Czechoslovakia, averaging 3,988 ha. of arable land (2,974 ha. in Slovakia, and 4,431 ha. in the Czech lands).

Since 1970, amalgamations have been officially encouraged only for relatively small cooperatives in Czechoslovakia, originally with less than 500 ha. of agricultural land, but recently with less than 1,000 ha.<sup>9</sup> Amalgamations were viewed as especially suitable in mountainous regions and where cooperatives were too small to warrant the introduction of large-scale production technology. Other cooperatives were supposed to create larger production capacities and a higher degree of specialization not by amalgamations, but by entering into cooperation schemes with other farms. However, many cooperative farms, not only the small ones, prefer to merge with neighbouring cooperative farms in order to avoid the complications of the new cooperation projects which, according to one expert, are

<sup>8</sup> *Ibid.*

<sup>9</sup> Vladislav Bajaja, "The Organisation of Czechoslovak Agriculture," a study forming part of the Ford Foundation Project on "The Organisation and Comparative Efficiency of Soviet and East European Agriculture" (Glasgow, 1976), mimeograph, p. 25.

now more or less forced upon them from the center (see below).<sup>10</sup> This partly explains the wave of cooperative farm mergers in the 1970s, especially in 1975. Pressure from Party and government officials undoubtedly also contributed to the farm amalgamations in 1975, as a second-best solution to the problem of encouraging cooperation between farms.

The campaign to merge state farms in the Czech lands in 1975 may also have been due to a desire to avoid entanglements in cooperation projects. On the other hand, although the state farms were already large before the amalgamations, they might still have been too small to undertake projects meeting the government's criteria for the establishment of new livestock enterprises to satisfy the country's meat requirements. The "optimal" capacities for such new livestock projects are quite high: over 500 head for milk cows, over 700 head for calves, over 500 head for heifers and for bullocks and young fattening cattle, over 600 head for sows, and over 4,000 head for fattening pigs.<sup>11</sup> It is also possible that the amalgamation campaign may have been motivated by a desire to create state farms with a higher degree of territorial consolidation. At present, most state farms lack this, being composed of several sub-divisions (sub-farms), in many cases located among neighbouring cooperative farms.<sup>12</sup> Such fragmentation of course hinders the efficient use of resources. As in the case of the cooperative farms, it is evident that the mergers were done with official approval, if not under official orders.

In Hungary, as in Czechoslovakia, the official policy in the early 1970s had been to develop forms of cooperation between farms to aid in the concentration of production, rather than to merge farms in places where personnel and material conditions were inadequate.<sup>13</sup> All the same, the number of cooperative farms in Hungary decreased by 403 between the end of 1972 and the end of 1974 (to stand at 1,918) because of amalgamations, and at the start of 1975, it was announced that the number of cooperatives would fall to 1,600-1,620 by the end of the year through "voluntary" mergers.<sup>14</sup> As in Czechoslovakia, the idea was to reduce or eliminate the number of small cooperatives farming under 1,000 ha. of land, and to reduce the number farming between 1,000-3,000 ha. The average post-merger cooperative was to have about 3,000 ha. of agricultural land, but many would have 5,000-6,000 ha. or more. The goals of the amalgamations were to produce better economic conditions on the enlarged farms by avoiding duplication, increasing the sums available for capital investments, increasing productivity through the introduction of new technology, creating better opportunities for ancillary activities, and freeing agricultural specialists from administrative work for production work. The mergers were to proceed only where the objective preconditions existed,<sup>15</sup> but within days of the start of the campaign, it was announced that Party and government functionaries were resorting to pressure to encourage mergers.<sup>16</sup>

<sup>10</sup> *Ibid.*

<sup>11</sup> *Ibid.*, p. 11.

<sup>12</sup> *Ibid.*, p. 25.

<sup>13</sup> *Magyar Hírlap*, 9 March 1974.

<sup>14</sup> *Nepszabadsag*, 15 January 1975.

<sup>15</sup> *Ibid.*

<sup>16</sup> Radio Budapest, 25 January 1975.

Even though the mergers were being carried out under official auspices, matters appeared to be getting out of hand by the end of September 1975. It seems that some organizations were planning a new wave of farm amalgamations,<sup>17</sup> and an order went out, effective from 5 October, that the approval of the Ministry of Agriculture and Food would be necessary for further mergers.<sup>18</sup> At the end of 1975, there were 1,599 cooperative farms in Hungary, each covering an average of 3,538 ha. of agricultural land, an increase of 20.8 percent over the previous year. In spite of prohibitions, mergers continued at a rapid pace at the start of 1976, allegedly because of overzealousness by local Party and government officials.<sup>19</sup> By September 1976, there were only 1,462 cooperatives, and the number of state farms had fallen to 134.<sup>20</sup> In December 1976, Kadar stated at the Third Congress of Agricultural Cooperatives that the cooperatives created through the amalgamations were large enough. He re-emphasized that instead of further mergers, the cooperatives should expand cooperation among themselves, especially through agro-industrial associations.<sup>21</sup>

As a result of the amalgamations in the course of 1975, the proportion of Hungarian cooperatives with up to 3,000 ha. of agricultural land fell from 77.4 percent to 55.6 percent, the proportion with 3,000–5,000 ha. rose from 15.4 percent to 31.4 percent, and the proportion with more than 5,000 ha. grew from 2.6 percent to 13.1 percent. However, it soon became apparent that the farms were unable to make efficient use of the larger areas, since they lacked the necessary trained personnel, new buildings, equipment, and machinery. The emphasis placed on new facilities encouraged a construction "fever" in mid-1975, with farms putting up new animal-breeding and keeping buildings while the old ones stood empty. Also, many exaggerated investment demands were made by the enlarged farms.<sup>22</sup> In short, conditions had not been objectively ripe for the ambitious amalgamation campaign of 1975 and 1976. That amalgamations were forced on the farms suggests that the government was impatient with the slow progress made towards cooperation among farms, and decided to try to foster concentration and specialization through administrative means.

In contrast to the other countries, Rumania appears to have remained cautious over the further amalgamations of farms. This is a result of the lessons learned from the fiasco of 1971 when, within a year, the number of state farms was reduced from 370 to 200, only to rise again to 364 on the grounds that many of the enterprises were too large, causing management problems.<sup>23</sup> In spite of the loss of some arable land in recent years, Rumanian state farms are still the largest on average in Eastern Europe, and the cooperatives are larger than those in most other countries.

#### MECHANIZATION AND FERTILIZER CONSUMPTION

As seen in Table 1, the level of mechanization has improved in Eastern Europe in recent years, especially in Bulgaria, Hungary, and

<sup>17</sup> Radio Budapest, 11 October 1975.

<sup>18</sup> *Magyar Mezőgazdaság*, 1 October 1975.

<sup>19</sup> *Figyelő*, 31 March 1976.

<sup>20</sup> *Nepszavazás*, 15 September 1976.

<sup>21</sup> *Nepszabadság*, 15 December 1976.

<sup>22</sup> Radio Budapest, 19 July 1975.

<sup>23</sup> Jacobs, "Organization and Management . . ." *op. cit.*, p. 286.

Rumania. The difference in level of mechanization between Rumanian state and cooperative farms is still great, at a time when such gaps appear to have been eliminated in the other countries under consideration, and is part of Rumania's general policy to give preference to the state sector. It should also be added that more than 70 percent of Rumanian-produced tractors are exported in order to balance trade, earn foreign exchange, and meet obligations to Comecon countries.<sup>24</sup> Were it not for that, Rumania's level of mechanization would be considerably higher. In East Germany, the number of tractors in socialist agriculture reached a high point in 1972, and has declined slightly every year since. It would appear that the East German policy is now to replace worn-out tractors, although without increasing the size of the total tractor park. All the other East European countries are still trying to increase the size of their tractor parks.

A continuing problem in Eastern Europe is the lack of adequate spare parts and repair facilities, which tend to keep machinery out of service for long periods. For example, in Hungary in 1973, 3,000 out of 13,000 combine harvesters were unusable because of lack of spares.<sup>25</sup> Efforts are currently being made throughout Eastern Europe to reduce this problem, including through the cannibalization of old machinery for spares, but it appears that a permanent solution is still many years away.

The development of sophisticated production systems for certain crops, particularly in Hungary and East Germany, but also elsewhere, is increasingly shifting the emphasis of mechanization to the acquisition of specialized machinery. Hungary's factories have ceased production of tractors, wheat combines, and large capacity automatic machinery, making the country dependent on foreign suppliers for advanced equipment. The Soviet Union and East Germany have shown themselves incapable, or perhaps unwilling, to deliver to Hungary the quantity and variety of tractors, combine harvesters, and systems equipment required,<sup>26</sup> and therefore Hungary is making large-scale purchases from Western suppliers. In 1974, Hungary planned to spend \$10 million on the purchase of spare parts and \$30 million for the purchase of new systems of equipment from Western firms.<sup>27</sup>

East Germany appears to have been able to get specialized equipment from the Soviet Union, and has developed pooling arrangements for several cooperative and state farms to use the same modern machinery and systems of machines. In 1974, about one-quarter of the cooperative farms participated in such pooling arrangements.<sup>28</sup> The idea has been to create cooperation units of 3,000–6,000 ha. in order to use profitably the E512 combine harvester complex (which requires at least 2,000 ha.) and the Soviet Krovez K700 all wheel tractor (which needs an area of 6,000 ha.).<sup>29</sup> With such expensive and complex equipment, the problems of spares and maintenance becomes even more important than before, and should present most Com-

<sup>24</sup> *Foreign Agriculture*, 25 August 1975, p. 12.

<sup>25</sup> *Magyar Nemzet*, 16 June 1974.

<sup>26</sup> *Világgazdaság*, 18 May 1974.

<sup>27</sup> *Ibid.*, 10 January 1974.

<sup>28</sup> *Ekonomika sel'skogo khozyaistva*, no. 12 (1974), p. 108.

<sup>29</sup> *The Times*, 7 October 1974.

munist countries with considerable difficulties, at least in the short term.

In the period between 1967 and 1974, the level of consumption of mineral fertilizer changed considerably in Eastern Europe. East Germany further increased consumption to 395 kg. of pure nutrients per ha. of arable land, followed by Czechoslovakia with 316 kg. (a rise of 71.7 percent). Hungary's fertilizer application jumped 2.7 times in the period, while Bulgaria's fell slightly. Rumanian fertilizer consumption is still the lowest in Eastern Europe, and is further distinguished by the wide gap in fertilizer application between state farms (132.6 kg./ha. of arable land in 1973), and cooperative farms (69.2 kg./ha.).<sup>30</sup>

Hungary's increased consumption of fertilizers has been made possible by large imports from Comecon and Western countries. The Hungarian fertilizer industry produces about 50 percent of the country's requirements, with 30 percent coming from Comecon partners, and 20 percent from Western sources.<sup>31</sup> Until the start of 1976, the increased costs of fertilizer and other chemical imports were subsidized by the government. However, the government decided to increase the price of fertilizers by 23 percent in 1976 in order to lessen the subsidy, discourage wasteful practices in the storage and handling of fertilizers, and encourage farms to use their sizeable stocks of manure to better advantage.<sup>32</sup>

Certain upward adjustments were made to procurement prices at the same time to cushion the farms. Nevertheless, cooperatives reacted by cutting back on fertilizer purchases in an attempt to maintain farm profitability, especially after it was seen that the 1976 drought would reduce yields. Long-term as well as short-term credits for the purchase of fertilizer were offered to reverse this trend,<sup>33</sup> but fertilizer purchases by cooperatives in the first nine months of 1976 were still 8 percent below the corresponding figure for 1975.<sup>34</sup> This of course jeopardized further production advances, especially for cereal crops, thereby possibly lessening Hungary's cereal export trade which was helping to finance the mechanization program. Although Hungary appears to be more badly hit by the price rise for fertilizers than many of the other Communist countries, there is evidence to suggest that the rate of increase in fertilizer consumption by the East European countries will be slower in the next few years than in the past.

#### TRANSFER OF LABOR AND LABOR PRODUCTIVITY

The mechanical and technical improvements in East European agriculture in recent years have facilitated the transfer of labor from the rural areas to the industrial centers, to the extent that there are now often labor shortages at peak farming periods and even at other times of the year. The agricultural work force of Bulgaria fell by about 310,000 persons between 1967 and 1974 (24.7 percent). During same period, the agricultural labor force fell by 179,000 in Czechoslo-

<sup>30</sup> The figure for fertilizer consumption by cooperatives excludes the area covered by the personal plots of cooperative farmers. In 1967, fertilizer consumption was 97.0 kg./ha. of arable land for state farms, and 42.0 kg./ha. for cooperative farms.

<sup>31</sup> *Magyar Mezőgazdaság Információk*, 14 August 1974.

<sup>32</sup> *Figyelo*, 10 November 1976.

<sup>33</sup> *Magyar Hírlap*, 25 August 1976.

<sup>34</sup> *Figyelo*, 10 November 1976.

vakia (15.3 percent), and by almost 189,000 in East Germany (16.2 percent). Between 1970 and 1974, about 131,000 left Hungarian agriculture (a fall of 11.0 percent), and the decline was also substantial in Rumania, although some of the statistics, given as they are in families in the cooperative sector, leave the extent of the decrease open to conjecture.

Such losses of manpower have made increases in labor productivity all the more important in East European agriculture. For the period 1970-1974, as compared with 1965-1969, labor productivity in state and cooperative farms rose by 44 percent in Hungary, 42 percent in East Germany, 37 percent in Bulgaria, and 22 percent in Czechoslovakia. By contrast, the figure for the USSR was 28 percent.<sup>35</sup> Output per farmer has been consistently higher in the state sectors than in the cooperative sectors because of the greater degree of overall mechanization and the longer hours worked by farmers in the state sectors.<sup>36</sup> As seen in Table 2, labor productivity judged on an hourly basis is for the most part also higher in state farms than in cooperatives, except, for unexplained reasons, in Bulgaria. However, the rate of growth of labor productivity in cooperative farms is higher than in state farms, and East European planners foresee that the difference will eventually be eliminated, as they have been to a major extent in East Germany.<sup>37</sup>

TABLE 2.—MAN-HOURS REQUIRED TO PRODUCE 1 TON OF PRODUCE IN CERTAIN COMMUNIST COUNTRIES

	Grain (excluding maize)		Sugar beet		Milk		Additional weight on beef cattle		Eggs <sup>1</sup>	
	1965-67	1971-73	1965-67	1971-73	1965-67	1971-73	1965-67	1971-73	1965-67	1971-73
<b>Bulgaria:</b>										
State farms.....	43	33	34	25	143	170	720	600	17	16
Cooperative farms.....	34	24	35	22	167	119	627	613	30	25
<b>Czechoslovakia:</b>										
State farms.....	49	30	20	14	110	85	466	315	28	10
Cooperative farms.....	54	29	23	16	154	106	624	441	36	18
<b>East Germany:<sup>2</sup></b>										
State farms.....	16	9	11	8	38	32	167	114	14	* 13
Cooperative farms.....	18	7	11	8	52	40	228	151	18	* 12
Hungary: State farms.....	37	21	30	10	160	113	884	601	29	16
<b>U.S.S.R.:</b>										
State farms.....	37	24	33	29	175	140	796	684	26	14
Cooperative farms.....	50	26	30	22	213	163	1,099	887	75	39

<sup>1</sup> Thousand units.

<sup>2</sup> Direct labour only.

<sup>3</sup> 1968-70.

Source: V. Masenkov, O. Cherkasheninova, V. Gabidullin, "Proizvoditel 'nost' truda v stranakh-chlenakh SEV", *Ekonomika sel'skogo khozyaistva*, No. 2 (1977), p. 115.

Although the improvements in agricultural labor productivity are commendable, it must also be said that labor productivity in agriculture is far below that in other spheres of the East European economies. A recent study has shown that in 1974, labor productivity in agriculture and forestry, as a percentage of labor productivity in the rest of the economy (i.e., the whole economy, minus agriculture and forestry,

<sup>35</sup> V. Masenkov, O. Cherkasheninova, and V. Gabidullin, "Proizvoditel'nost' truda v stranakh-chlenakh SEV," *Ekonomika sel'skogo khozyaistva*, no. 2 (1977), p. 116.

<sup>36</sup> *Ibid.*, p. 117.

<sup>37</sup> *Ibid.*, p. 115.

and minus the non-productive sphere) stood at 48 percent in Bulgaria, 45 percent in Czechoslovakia, 70 percent in East Germany, 52 percent in Hungary, only 24 percent in Rumania, and 52 percent in the USSR.<sup>38</sup> The low level of agricultural productivity when compared with other sectors of the economy is due fundamentally to the low level of capital per worker in agriculture. Only in East Germany has the share of fixed capital in agriculture (excluding land) reached a level roughly equal to that in the labor force, and this is the main reason why the disparity in labor productivity is smallest in that country.<sup>39</sup> One of the main motivations behind the plans for agricultural integration in Eastern Europe is to maximize the effectiveness of available capital inputs in order to increase output and also labor productivity.

#### HORIZONTAL INTEGRATION

Attempts to achieve the concentration and specialization of agricultural production in Eastern Europe have been hindered by a number of factors. Even though the cooperative and state farms were large by West European standards, they often lacked the capital, material resources, and labor resources to make large-scale agricultural production projects feasible. Moreover, most farms were prevented from specializing because of their more or less compulsory contractual obligation to deliver a wide range of products to procurement agencies. For example, until the full-scale introduction of APKs, most Bulgarian cooperative farms were producing between 50 and 60 different crops and several different kinds of farm animals.<sup>40</sup> The most typical attempts to solve these problems involved the merger of farms into larger production units, increases in prices paid to farms (in the hope that they would then operate profitably and be able to accumulate investment capital), and offers of certain credits for the construction of new facilities. However these efforts usually did not encourage specialization, nor did they lead to the desired concentration of production, since financial, technical, and labour resources and management techniques were still inadequate. The different forms of agricultural integration introduced in Eastern Europe in recent years have been designed to circumvent these problems.

In general terms, horizontal integration implies greater financial and economic cooperation and coordination between farms in production work and product specialization. Farms operating under similar conditions are brought together in some form of association or complex, which then becomes integrated within itself. Some types of association or complex will process, as well as produce, a given agricultural product, but in horizontal integration schemes, there is no integration between the association or complex and related industrial processing enterprises or sales organizations. By contrast, in vertical integration schemes the already integrated agricultural sector becomes fully integrated with the industrial sector relating to it so that the whole economic process, from producing the primary product to selling the final product, is the responsibility of a single corporate unit. The eventual goal of vertical integration is to make agriculture into a branch of the food industry and light industry.<sup>41</sup>

<sup>38</sup> Karl-Eugen Wädeklin, "The Place of Agriculture in the European Communist Economies: A Statistical Essay," *Soviet Studies*, no. 2 (1977), p. 243.

<sup>39</sup> *Ibid.*, p. 244.

<sup>40</sup> *Voprosy ekonomiki*, no. 5 (1972), p. 148.

<sup>41</sup> *Ekonomika sel'skogo khozyaistva*, no. 3 (1975), p. 116.

Horizontal integration of agriculture has proceeded farthest in Bulgaria, through the institution of the agro-industrial complex, which is supposed to introduce industrial methods and technology to farming. Bulgaria is the only Communist country to have introduced horizontal integration on a national scale. As already mentioned almost all farms in Bulgaria are members of APKs. At the end of 1974, there were 153 APKs, 9 industrial-agricultural complexes (PAKs—the basic form of vertical integration), and 2 scientific-productional associations (NPOs—another form of vertical integration). In all, membership of the APKs and PAKs amounted to 462 cooperative farms, 130 state farms, and 427 specialized enterprises. Each complex has an average of five or six cooperative and/or state farms, almost 25,000 ha. of cultivated land, around 6,500 permanent workers, more than 650 15-h.p. tractor units, and basic funds worth more than 25.3 million leva. Some complexes are much larger than average (up to 100,000 ha. and more), but some, at least in the early years, were considerably smaller than the then average size of a single cooperative (then about 5,000 ha.).<sup>42</sup> The very small APKs seem to have been disbanded or absorbed into larger APKs, as evidenced by the drop in the number of APKs from 170 in 1971 to 153 in 1974, although the agricultural area they covered was virtually the same. Each district usually has between 5 and 7 APKs within its boundaries.<sup>43</sup> In keeping with the aim of specialization, the complexes usually grow only between 3 and 5 crops, and usually limit themselves to only one branch of livestock production.<sup>44</sup>

As mentioned previously, more than half of Bulgaria's APKs have become unified, with the consequent loss of independence by the constituent farms. Unification of an APK is not supposed to occur until a certain level of concentration and specialization has been reached, and the level of labor remuneration among the member farms has been equalized. When an APK becomes unified, the form of management changes from territorial to branch (i.e., section managers become concerned with spheres of specialization rather than separate territorial units). Each previously independent farm becomes a branch or sub-farm of the APK, with its own production specialization (e.g., grain growing, livestock breeding, fodder production, fruit production, etc.). These branches operate on the principles of economic accountability within the APK.<sup>45</sup> Even when an APK becomes unified, members of constituent cooperative farms are allowed to retain their personal plots. In fact, the farming activities undertaken by cooperative members and other groups of the population on their personal plots have received considerable encouragement from the state in the past few years. For example, for fulfilling contracts for the sale to the state of specified kinds and quantities of produce from their plots, peasants receive incentives such as fodder for livestock and various premia.<sup>46</sup>

Whether or not the APK is as yet unified, the boundaries separating individual farms and fields sown with different crops are abolished, and very large fields, called "massives", sown to a single crop are created. Before the establishment of APKs, grain was grown in

<sup>42</sup> *Rabotnicheskoe Delo*, 22 September 1970.

<sup>43</sup> *Ibid.*

<sup>44</sup> *Voprosy ekonomiki*, no. 5 (1972), p. 148.

<sup>45</sup> V. Aref'ev and I. Karpenko, "Spetsializatsia v ramkakh sotsialisticheskoi integratsii", *Ekonomika sel'skogo khozaystva*, no. 3 (1977), p. 109.

<sup>46</sup> *Rabotnicheskoe Delo*, 16 March 1974.

Bulgaria in more than 75,000 fields, each with an average area of 40 ha. In 1976, the size of grain fields ranged from 200 to 500-1,000 ha. Up to 1970, vegetable crops were grown in 17,000 fields, but in 1976, production was concentrated on basically 260 fields, averaging 315 ha. each.<sup>47</sup> Fruit and grape plantations now have from 1,000 to 2,500 ha., and concentration has also proceeded in the production of sugar beet, rice, cotton,<sup>48</sup> maize, sunflower seed, tobacco, and other crops.<sup>49</sup> In the livestock sector, developments have been equally noteworthy. At the start of 1976, 11 APKs for fattening calves had 3,000-11,000 calves each, 13 poultry APKs had 3-6 million broilers each, 9 egg APKs had 100,000 hens each, and 18 pig-breeding APKs put through 32,000-100,000 pigs per year each.<sup>50</sup>

Events in the district of Silistra give a good indication of the operation of APKs and also point to possible future trends. In the spring of 1974, the district's 6 existing APKs were merged into two complexes. One was a unified APK, having 21 cooperative and 2 state farms, and specializing in grain growing and livestock breeding. Management was on the branch principle (one branch for each specialization). The second complex involved vertical integration. The new complex became a fruit and vegetable growing PAK attached to the Rodopa Economic Concern. It had 7 cooperatives and 1 state farm, and 2 canning factories. The component farms lost their economic independence, and management was on the branch principle.<sup>51</sup> In February 1976, the APK and PAK were merged to form a single APK (n.b., the PAK was completely eliminated),<sup>52</sup> covering almost all the land of the district (153,000 ha. out of 173,000, of which the pre-merger APK contributed 124,400 ha.), and about 3.5 percent of Bulgaria's agricultural land.<sup>53</sup> This super-large APK was to specialize in "output of agricultural production and the processing of fruit and vegetables", thus combining some of the features of the old PAK with the new APK. Approval for the merger of the APK and PAK was given only after a U.S. firm was awarded a contract to direct the operation.<sup>54</sup> The Bulgarians reportedly hoped that foreign expertise and technology would help to overcome some of the problems in feed-livestock production, including fluctuating production and profitability, the need for heavy investment in new storage facilities, and vast new irrigation facilities. Such investments are now under constraint in Bulgaria. The agreement called for Bulgarians to pay for the investments, technology, and management services principally in products.<sup>55</sup> Success in this venture may make the way for the creation of super-large APKs throughout Bulgaria.

Until recently, it appeared that there was a certain amount of flexibility and local decision-making in APKs. However, whatever give there was to the system in the early years has now vanished. For example, a national APK was formed in September 1976 to act as an overlord in unified state policy in the sphere of agriculture and

<sup>47</sup> Aref'ev and Karpenko, *op. cit.*, p. 109.

<sup>48</sup> *Ibid.*

<sup>49</sup> *Ikonomicheski Zhivot*, 24 March 1976.

<sup>50</sup> *Ibid.*, 1 January 1976.

<sup>51</sup> *Darzhaven Vestnik*, 9 April 1974.

<sup>52</sup> *Ibid.*, 17 February 1976.

<sup>53</sup> *Ikonomicheski Zhivot*, 4 June 1975.

<sup>54</sup> Miles J. Lambert, "Bulgaria Seeks Western Know-How to Spur Farming," *Foreign Agriculture*, 9 February 1976, p. 10. *Otechestven Front* reported that two foreign firms had been awarded the contract (15 January 1976).

<sup>55</sup> Lambert, *op. cit.*, pp. 10-11.

the food industry.<sup>56</sup> Under current plans for regional specialization in both feed crops and livestock, only cattle will be raised throughout the country, although production methods are supposed to be geared to local conditions. Other livestock enterprises are to be limited to the best-suited areas, where needed grains and oilseeds can also be produced.<sup>57</sup> Individual APKs would now appear to have little say about what their livestock specialization is to be.

In annual and five-year planning, there are some chances for farms to bargain over assignments within the APK or with the planning bodies if the APK has not yet become unified. However, once an APK assumes full legal and economic control over its constituent farms, the plan targets are sent from the Council of Ministers, through the State Committee for Planning, directly to the APK.<sup>58</sup> Central control over the operations of APKs, especially unified APKs, appears to be tighter than that exerted over comparable complexes or associations in other Communist countries. With the further development of the contract system between APKs and processing, marketing, and export organizations, it is envisaged that the central allocation of control figures to APKs will be reduced.<sup>59</sup> Apart from current planning inflexibility, Bulgarian APKs must overcome the problems of high production costs (caused by the necessity of equalizing labor remuneration among the member farms),<sup>60</sup> the wide range of natural conditions encountered in one APK, the shortage of manpower, experts, and sophisticated machinery, and the general disadvantages of bigness, in order to show to the other Communist countries that the experiment is worth copying.

Rumania is introducing horizontal integration under the guidance of Inter-Cooperative Councils. Under regulations introduced at the end of December 1976, an Inter-Cooperative Council is set up in each county, and local Councils are formed within individual villages or in groups of neighbouring villages, to include the cooperative farms and the Inter-Cooperative Associations (enterprises embodying the principles of horizontal integration).<sup>61</sup> The local Inter-Cooperative Council's function is to coordinate the development plans and encourage cooperation among the cooperative farms, assist in setting up Inter-Cooperative Associations, and foster schemes incorporating a degree of vertical integration,<sup>62</sup> as discussed below. The county Inter-Cooperative Councils are responsible for working out and overseeing the county's overall agricultural production plan. In addition to allocating machinery to the cooperatives in association with the local agricultural mechanization station,<sup>63</sup> local Councils participate in the preparation of the plan indicators of the cooperatives as well as for Inter-Cooperative Associations, units of cooperative farm-state farm cooperation, and processing units of the consumer cooperatives. The Council must also check on the fulfillment of all these plans.<sup>64</sup>

<sup>56</sup> *Darzhaven Vestnik*, 21 and 24 September 1976.

<sup>57</sup> Lambert, *op. cit.*, p. 11.

<sup>58</sup> Wiedemann, *op. cit.*, p. 24. Plans approved by the Council of Ministers are now given to each APK governing wages, profitability, limits on capital investment, tax liability, and allocations of credit, in addition to indices for irrigation and drainage work and the introduction of new techniques in production (pp. 25-27).

<sup>59</sup> *Ibid.*, p. 27.

<sup>60</sup> *Ikonomicheski Zhivot*, 1 May 1974 and 14 April 1976.

<sup>61</sup> *Agricultura socialiste*, 26 February 1977.

<sup>62</sup> *Ibid.*

<sup>63</sup> *Buletinul Oficial*, 15 April 1974.

<sup>64</sup> *Agricultura Socialiste*, 26 February 1977.

Each local Inter-Cooperative Council usually encompasses 5 to 7 cooperative farms, and includes representatives of state farming enterprises and other bodies in the locality. In mid-1973, there were 747 councils, involving all of Rumania's cooperative farms.<sup>65</sup> The average area covered by the Councils varied from 10,000–15,000 ha. in the lowlands to 5,000–10,000 ha. in mountainous areas.<sup>66</sup> The director of the local agricultural mechanization station, who is a state official, is the head of the local Council.<sup>67</sup> Although the cooperatives do not officially lose their economic or legal independence in belonging to a Council or Inter-Cooperative Association, it is obvious that they have little real autonomy.

There are two kinds of Inter-Cooperative Associations in Rumania. The so-called ordinary Association provides guidance and supervises the coordination of production.<sup>68</sup> The more important economic Inter-Cooperative Association engages in specialized production activities, e.g., poultry raising, stock breeding, vegetable production in hothouses, servicing work, and the construction and operation of production, storage, and processing facilities.<sup>69</sup> The number of Associations has continued to grow, despite the dissolution of a certain number over the years.<sup>70</sup> There were 254 Inter-Cooperative Associations in Rumania at the start of 1971,<sup>71</sup> and 412 at the beginning of February 1973.<sup>72</sup> At the end of 1973, there were 463 Associations, of which (with some duplication) 70 were for crop production, 335 for animal breeding, 66 produced some type of fodder, and 56 had other specializations. Some of the undertakings are very large, as seen from recent "optimum" sizes specified for Inter-Cooperative Associations specializing in livestock production: for hog fattening, 15,000–30,000 hogs; cattle fattening, 2,700 head (maximum); sheep fattening, 15,000 head; poultry, 600,000 broilers; and eggs, 36,000 hens.<sup>73</sup> In 1973, the agricultural production of Inter-Cooperative Associations represented about 10–12% of the value of the output from the cooperative sector.<sup>74</sup>

It is possible for Inter-Cooperative Associations to be composed of cooperative farms alone or of cooperative farms and, seemingly, one state enterprise. Where only cooperatives belong to the Association, the chairman is the director of the local agricultural mechanization station. An Association occasionally includes a state enterprise (usually a state farm) as a member, in which case the director of the enterprise becomes the Association's chairman.<sup>75</sup> Thus, the Association always has a state employee exercising control over its activities. An Inter-Cooperative Association usually has 4 or 5 cooperative farms as members, but some, depending on the character of the activities, may involve 20 or 30,<sup>76</sup> or even 40 to 50 farms, sometimes 100 to 150 km. apart.<sup>77</sup> Some cooperative farms are members of 5 or 6 Associations.<sup>78</sup> Members of an Association retain their economic and legal independ-

<sup>65</sup> Michael Cernea, "Organizational Build-up and Reintegrative Regional Development in Planned Agriculture", *Sociologia Ruralis*, no. 1/2 (1974), p. 42n.

<sup>66</sup> *Ibid.*, p. 36.

<sup>67</sup> *Agricultura Socialiste*, 26 February 1977.

<sup>68</sup> *Buletinul Oficial*, 15 April 1974.

<sup>69</sup> Cernea, *op. cit.*, p. 35, and *Voprosy ekonomiki*, no. 4 (1972), p. 110.

<sup>70</sup> Cernea, *op. cit.*, p. 35.

<sup>71</sup> *Voprosy ekonomiki*, no. 4 (1972), p. 110.

<sup>72</sup> Cernea, *op. cit.*, p. 35.

<sup>73</sup> *Romania Libera*, 7 May 1974.

<sup>74</sup> See the discussion on these Associations in *Probleme Economice*, no. 3 (1974).

<sup>75</sup> *Buletinul Oficial*, 15 April 1974.

<sup>76</sup> Cernea, *op. cit.*, p. 35.

<sup>77</sup> See the discussion in *Probleme Economice*, no. 1 (1974).

<sup>78</sup> *Ibid.*

ence, but must contribute cash and equipment to the Associations' enterprise fund to ensure fixed assets and necessary operating capital.<sup>79</sup>

Rumanian planners are worried that the trend for Associations to involve more and more farms quite distant from each other, and for farms to be members of several Associations, weakens the objects of deep concentration and specialization. It is feared that farms do not take much interest in joint enterprises located far away, that their production interests are being diverted in too many directions at once, and that their investments are not being used to best advantage.<sup>80</sup> There have also been doubts expressed about the large size of some Associations, especially since it appears that farms join the Associations less because of economic interests than because of pressure from above.<sup>81</sup> Cooperatives are said to have reservations about the Associations because they have tended to lose money. Since the Associations are not legal persons, member cooperatives have been required to cover the losses instead of receiving additional income from their new activity.<sup>82</sup> Another problem is that the large Inter-Cooperative Associations cut across the boundaries of several Inter-Cooperative Councils, leading to problems of coordination among Councils. It would appear that the county Inter-Cooperative Councils were instituted in part to cope with this problem. It is clear that the present arrangements for horizontal integration in Rumania are extensive, but at the same time unsatisfactory in their operation. Further changes can be expected in the near future.

In contrast with most other Communist countries, where the concentration and specialization of production are to be achieved as a result of the creation of large farms and cooperation and integration projects, East Germany's integration program is being carried out after a significant degree of farm specialization has already been reached, even though (or perhaps, because) East German farms are small by Communist standards. There are now about 150 specialized crop-growing cooperative and state farms in East Germany, characterized by a high level of concentration and specialization of production, the widespread adoption of industrial methods, and close links with the processing industry.<sup>83</sup> For example, the "Jena" specialized crop cooperative near Potsdam is about 4 times the size of most Type III cooperatives, having 5,700 ha. of agricultural land. It has reduced the number of crops it grows from 12 to 5, and now devotes 19 percent of its arable land to its main specialty—seed potatoes.<sup>84</sup> Such a degree of specialization would be difficult to find in farms of similar size in other countries under discussion. Although the Jena farm is not altogether typical, East Germany has gone further to implement a program of specialization than the other countries, and this has helped in the introduction of horizontal integration.

The most widespread form of integration in East Germany involves inter-farm cooperation associations for crop production. These unite several nearby cooperative and state farms with similar economic conditions. The member farms reportedly pool their land, financial, material and labor resources,<sup>85</sup> although they retain their economic

<sup>79</sup> *Buletinul Oficial*, 15 April 1974.

<sup>80</sup> See *Probleme Economice*, no. 1 (1974).

<sup>81</sup> See the discussion in *Probleme Economice*, no. 2 (1974).

<sup>82</sup> *Ibid.*

<sup>83</sup> Aref'ev and Karpenko, *op. cit.*, p. 111.

<sup>84</sup> *Ibid.*

<sup>85</sup> *Ibid.*

and legal independence. Obviously, this is possible only where conditions on the participating farms are very similar. Through the introduction of these associations, the average size of a production unit in crop production has increased from 600 ha. to 4,200 ha.<sup>86</sup> As mentioned earlier, this makes it profitable for the associations to purchase modern technology and systems of machines for crop production, which the member farms then share. There are now about 1,200 of these associations, cultivating about 90 percent of the country's agricultural land. Each inter-farm association covers from 4,000 to 6,000 ha. of agricultural land (from 3 to 10 farms).<sup>87</sup>

In recent years, inter-farm cooperation associations have also developed rapidly in East Germany's livestock sector. There are currently 394 such enterprises, occupied in milk production, hog and cattle fattening, heifer rearing, and poultry and egg production.<sup>88</sup> In order to encourage the construction of livestock complexes operating on an industrial basis, the state has provided capital investments, grants, and reduced annual interest rates on long-term loans since the beginning of 1974. Moreover, because of the high costs of building, equipping, and stocking these inter-farm enterprises and running them in, the state also pays bonuses for produce from the complex for the first three years of its operation if the complex meets minimum capacity standards.<sup>89</sup> For example, to receive the special benefits and incentives, all newly constructed units must have a minimum of 2,000 cows in a dairy complex, 16,000 animals in a cattle fattening complex, 2,000 heifers in a heifer fattening complex, an annual volume of 25,000 tons slaughter weight (undertaking the whole cycle of production) in a hog fattening complex, 600,000 broilers, or 700,000 laying hens.<sup>90</sup> It is reported that there are now in operation hog fattening complexes with 108,000 hogs each (and one for 216,000 head is being built), cattle-fattening complexes with around 18,000 steers each,<sup>91</sup> and heifer fattening complexes with 5,000 animals.<sup>92</sup> Of the 3,800 million eggs produced in East Germany in 1973, 50 percent came from chickens kept under industrial type conditions in modern battery coops.<sup>93</sup>

Cooperation associations are also set up between East German farms for the joint performance of such tasks as melioration, chemicalization, plant protection work, construction and operation of warehouses and mixed feed plants, etc.<sup>94</sup> There is also a network of about 260 agronomic centers and more than 150 machinery servicing enterprises, with economic links with the inter-farm cooperation associations as well as individual cooperative and state farms.<sup>95</sup> Since East German inter-farm cooperation associations are not economic bodies in the eyes of the law, the plans of the member farms are coordinated with government agencies which then confirm them, and relations between members are governed by contracts they conclude with each other.<sup>96</sup> This restricts the autonomy of the associations and the

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<sup>86</sup> *Ibid.*

<sup>87</sup> *Ibid.*

<sup>88</sup> *Ibid.*

<sup>89</sup> *Ekonomika sel'skogo khozyaistva*, no. 6 (1974), pp. 106-107.

<sup>90</sup> *Ibid.*, no. 12 (1974), p. 108.

<sup>91</sup> Aref'ev and Karpenko, *op. cit.*, p. 111.

<sup>92</sup> *The Times*, 7 October 1974.

<sup>93</sup> *Ibid.*

<sup>94</sup> *Ekonomika sel'skogo khozyaistva*, no. 3 (1973), p. 116.

<sup>95</sup> Aref'ev and Karpenko, *op. cit.*, p. 112.

<sup>96</sup> *Kooperation*, April 1973, pp. 171-174.

farms, although, it would seem, not as much as arrangements in Bulgaria and Rumania. The relatively small size of East German farms and inter-farm cooperation associations has helped to maintain a degree of flexibility in the system.

As seen above, the Hungarians have attempted to use the amalgamation of farms as one method to achieve concentration and specialization of production. However, it has been found that in Hungarian conditions, the value of output per hectare does not grow with farm size, and production cost per unit does not decline accordingly. In short, the enlargement of farm enterprises has not led to improved efficiency,<sup>97</sup> nor on its own has it benefited production concentration or specialization. Where Hungary has been able to move forward in these spheres has been with the introduction of the Closed Production System (CPS). The CPS is a form of horizontal integration designed to introduce the most advanced technology and industrial methods to the production, and sometimes also the processing, of certain agricultural products. In 1974, there were 91 such production systems in operation in Hungary, of which 15 were for crops, and 46 for livestock production.<sup>98</sup> The CPS is most widespread in the production of maize (535,000 ha. in 1974), sugar beet (28,000 ha.), alfalfa (17,000 ha.), and rice (13,000 ha.) in the crop sector,<sup>99</sup> and poultry production in the livestock sector.<sup>1</sup> It has also been introduced for wheat, potatoes, soya and paprika.<sup>2</sup>

The organizer of the CPS is as a rule a large leading enterprise which through contracts unites a number of farms providing land area, production facilities, and labor force. The member farms retain their basic independence, but agree to follow the instructions of the chief enterprise regarding the CPS. It is clear that the degree of central control here is far less than in other schemes for horizontal integration. The chief enterprise provides participating farms with equipment, machinery, spare parts, seeds, fertilizers, and herbicides. The organizing farm also works out the technology of production, organizes the training of personnel, sees to technical services, etc. In return for this help, the beneficiary farms pay the chief enterprise a defined percentage commission from the additional harvest received by the farms after the introduction of the system. A CPS for maize production on the base of Nadudvar cooperative began in 1973, uniting 10 co-operatives with 10,500 ha. of maize. In 1975, it had 234 members, and CPSs had also been introduced for sunflowers (25,000 ha.), sugar beets (26,000 ha.), and soya (3,000 ha.), in addition to maize (125,000 ha.).<sup>3</sup> The Babolna Joint Maize Enterprise has a similar history. Maize production by the CPS method in Hungary covered 953,000 ha. in 1975, and is planned to reach 1,600,000 ha. in 1980.<sup>4</sup>

A great problem in the introduction of the CPS has been the shortage of hard currency to buy the required machinery, equipment, and other inputs from Western suppliers. As stated above, Hungary has

<sup>97</sup> Lewis A. Fischer, "The Organization of Hungarian Agriculture," a study forming part of the Ford Foundation Project on "The Organization and Comparative Efficiency of Soviet and East European Agriculture" (Glasgow, 1977), mimeograph, pp. 38-39.

<sup>98</sup> Aref'ev and Karpenko, *op. cit.*, p. 110.

<sup>99</sup> Fischer, *op. cit.*, p. 32.

<sup>1</sup> Aref'ev and Karpenko, *op. cit.*, p. 110.

<sup>2</sup> *Vilaggazdasag*, 9 February 1974; Radio Budapest, 26 June and 23 September 1974.

<sup>3</sup> Aref'ev and Karpenko, *op. cit.*, p. 110.

<sup>4</sup> *Figyelo*, 3 September 1975. See also *Magyar Hirlap*, 1 February 1974.

been unable to depend on its Comecon partners, and does not produce the necessary machinery, or enough chemicals and fertilizers, itself. Moreover, the drain on resources caused by the recent amalgamation campaign has slowed development of CPSs. Last, the government's recent attempt to transfer an additional part of the cost of the CPSs to the farms through increased charges for fertilizers and chemical agents has inhibited the expansion, and full efficiency, of the system. Although net income tends to remain stagnant using the CPS, the great benefit is that it helps yields to increase,<sup>5</sup> which has enabled Hungary to once again become a net exporter of grain, thereby earning needed foreign currency.<sup>6</sup>

There are two basic forms of agricultural cooperation in Czechoslovakia: the cooperative association, where no new organization is created, and the tasks cannot be separated from the agricultural work of the farms involved; and the joint agricultural enterprise, where a new legal entity is created (although the member farms retain their economic and legal independence) to carry out an agricultural or non-agricultural activity. In July 1973, some 1,722 socialist farms (including 1,480 cooperatives) belonged to 387 cooperative associations, about 1/3 of which dealt with the joint use of machinery.<sup>7</sup> Very few of these associations (less than 6%) were involved in much favoured so-called complex co-operation, entailing the common cultivation of fields in inter-connected crop rotation schemes without respect of farm boundaries.<sup>8</sup> The failure to introduce complex cooperation on a large scale appears to be a reason behind the recent wave of farm mergers.

Czechoslovakia's joint agricultural enterprises represent a more developed form of horizontal cooperation, and have received much more emphasis than the cooperative associations.<sup>9</sup> Cooperative or state farms, or a combination, have created joint enterprises for pig fattening, egg and broiler production, and other agricultural activities such as potato and feed drying. Joint agricultural enterprises have also included construction firms, organizations for marketing fruit and vegetables, and even wine-taverns (the partners are involved in agriculture, even if the aim of cooperation has little to do with agriculture). There are also district joint agricultural enterprises, which are kinds of uniform common enterprises for the whole district, with several production and service branches.<sup>10</sup>

By 1 July 1975, there were 333 active joint agricultural enterprises in Czechoslovakia, of which 21 were district associations with various activities, 32 were specialized in pig fattening, 10 in egg production, 6 in cattle fattening, and 32 in feed drying and the production of feed mixtures. The majority, however, had little to do with agricultural production: 111 were purely construction or land improvement firms, 46 were agro-chemical enterprises, and 72 were engaged in unspecified other activities. Out of the total labor force of 43,652, some 30,993 worked in construction or land improvement.<sup>11</sup> The joint agricultural

<sup>5</sup> Fischer, *op. cit.*, p. 42.

<sup>6</sup> In 1973, about 625,000 tons of wheat and the same amount of maize were exported to the West (*Világ-gazdaság*, 9 February 1974).

<sup>7</sup> Bajaja, *op. cit.*, p. 69.

<sup>8</sup> *Ibid.*, pp. 69-70.

<sup>9</sup> *Ibid.*, p. 66.

<sup>10</sup> *Ibid.*, p. 66.

<sup>11</sup> *Ibid.*, pp. 66-67.

enterprises are just beginning to make themselves felt in production, turning out 18 percent of all eggs and 10.5 percent of fattened pigs produced in 1974.<sup>12</sup> However, farms are reluctant to join joint agricultural enterprises, especially where the aim is to specialize in crop farming or in land dependent branches of animal husbandry, preferring instead to merge with another farm.<sup>13</sup> As a result, most of such schemes are imposed on the farms.<sup>14</sup>

One of the great disincentives for farms to join joint agricultural enterprises was that the tax laws seemed to penalize such participation. Until the start of January 1975, taxation was based on a cooperative farm's gross income, without reference to profits, thus giving a great advantage to profitable farms. On the other hand, taxes for joint agricultural enterprises were based on profits. Cooperatives were therefore faced with the possibility of having to give up profitable lines to joint agricultural enterprises, thereby reducing the cooperative's profitability while at the same time making it liable to higher taxes on profits from the joint agricultural enterprises operations. On 1 January 1975, a new agricultural tax law was introduced, basing taxes on land values and the profit of the farm or enterprises, eliminating the previous anomaly. Moreover, in order to promote concentration and specialization, newly established joint agricultural enterprises, such as those breeding pigs, producing eggs, fattening cattle, etc., were exempted from taxes on profits for the first five years.<sup>15</sup> It is expected that these changes will now encourage farms to participate more readily in joint agricultural enterprises. However, at present, horizontal integration is least developed in Czechoslovakia of all the countries in Eastern Europe.

#### VERTICAL INTEGRATION

In terms of vertical integration of agricultural production, the East Germans have progressed farther than the other Communist countries. The East German method has entailed the establishment of so-called cooperation unions which may involve cooperative farms, state farms, inter-farm enterprises and associations of different specializations, industrial processing enterprises, trade organizations, transport and other service enterprises, etc.<sup>16</sup> The member bodies are all supposed to be equal, but in practice, the processing enterprises predominate. All the enterprises and organizations in a cooperation union retain their economic and juridical independence, although the combine itself is a legal entity and operates under the system of economic accountability. All the members enter into contracts with each other, basing these on their centrally approved overall production plans. The contracts generally run for 2 to 3 years, after which they are revised, and non-fulfillment imposes financial penalties and legal responsibilities on the defaulter. A joint material and financial fund is maintained by the cooperation union to finance joint projects.<sup>17</sup> Cooperation unions have been formed for

<sup>12</sup> *Ibid.*, p. 67.

<sup>13</sup> *Ibid.*, p. 71.

<sup>14</sup> *Ibid.*, p. 50.

<sup>15</sup> See *Rolnische Noviny*, 26 October 1974 and *Zemelske Noviny*, 25 October 1974.

<sup>16</sup> Aref'ev and Karpenko, *op. cit.*, p. 112.

<sup>17</sup> *Ekonomika sel'skogo shozyaystva*, no. 5 (1970), p. 115-117.

meat, milk, vegetable, fruit, and jam production and processing. There were more than 380 cooperation unions in East Germany in 1975, of which more than 220 were for the production and processing of livestock products and poultry, and more than 160 were for the production and processing of vegetables, potatoes, and other crops.<sup>18</sup>

Bulgaria now has two organizations involving vertical integration in agriculture: the Industrial-Agricultural Complex (PAK), and the Scientific-Productional Association (NSO). PAKs, in contrast with APKs and NSOs, are distinguished by the predominance of an industrial enterprise in their organizational structure. Compared with APKs, the PAKs enjoy more unified planning and direction, with fewer administrative obstacles, and more concentrated capital investments.<sup>19</sup> The first PAKs were set up at the end of 1972 as constituents of the Bulgarian Sugar Industrial-Agricultural Association. This Association now encompasses 8 PAKs, including 7 sugar refineries and 1 seed farm, 3 enterprises for producing alcohol and yeast, 12 APKs, and several cooperative farms having significant areas of sugar beets. The Association's land area extends over 370,600 ha., and in its integrated economy, it produces and processes the raw material and packs it ready for sale (it does not market it itself).<sup>20</sup> Regardless of the type of farms in a PAK, the farms lose their independence to the PAK, which is classified as state property.<sup>21</sup> That the Bulgarians retain a flexible approach towards the question of relative status of APKs and PAKs is seen in the previously mentioned merger of the PAK into the APK in Silistra.

Although PAKs and NSOs seem to have similar structures and economic mechanisms, the latter are more scientifically oriented and are supposed to be set up particularly where science can be integrated with industrialized production methods. The chief enterprise in an NSO is the scientific institute. The first NSO was created for viticulture and wine production in March 1974 out of one research station, part of an existing APK (the remaining part was reorganized into a new APK), and sections of both a nearby cooperative farm and a state farm.<sup>22</sup> The main purpose of the NSO was supposed to be the introduction of innovations and technical improvements, with other aspects of viticulture and wine-making taking second place. A more ambitious NSO was set up at the end of 1976 for fruit and vegetable production and processing in Plovdiv. It has 37,000 ha. of arable land, making it much larger than the average APK, 2 scientific research institutes, an institute on the canning industry, 2 entire APKs and part of another, a number of hothouses, and other holdings.<sup>23</sup>

As previously, the land area of the NSO (unlike that of a PAK) did not form a contiguous unit. The application of science to production and processing was obviously important in the Plovdiv NSO, but its scale of operation indicates that it was set up not only for experimental purposes but also as a serious economic venture. Additional NSOs have now been created for maize production and viticulture,<sup>24</sup> and a highly integrated poultry NSO now not only

<sup>18</sup> Aref'ev and Karpenko, *op. cit.*, p. 112.

<sup>19</sup> Lambert, *op. cit.*, p. 11.

<sup>20</sup> Aref'ev and Karpenko, *op. cit.*, p. 109.

<sup>21</sup> *Rabotnichesko Delo*, 17 January 1974.

<sup>22</sup> *Darzhaven Vestnik*, 29 March 1974.

<sup>23</sup> *Otechestven Glas*, 22 December 1976.

<sup>24</sup> *Darzhaven Vestnik*, 5 March 1976.

produces and processes but also markets its products.<sup>25</sup> Plans call for the creation of other NSOs for wheat, soybeans, barley, attar of roses, and other crops.<sup>26</sup> It is interesting to note that the development of the NSOs is taking place at a time when production results from the sugar industry PAKs have been disappointing. Moreover, NSOs are being introduced into a number of different production spheres, unlike the PAKs. It is likely that the NSOs will soon outnumber the PAKs, and might eventually form the basis for the further development of vertical integration in Bulgarian agriculture.

Hungary has had a number of problems in establishing vertical integration in agricultural production. There are basically three different kinds of vertically integrated combines in Hungarian agriculture: the state enterprise, in which all components are owned by the state; the joint (or inter-sectoral) enterprise, combining cooperative farms (and sometimes cooperative farms and state enterprises) under the rules relating to economic associations; and a combine-type enterprise set up by a specialist producer to process the raw material it turns out and then market the end product. In practice though, state industrial enterprises and agricultural processing enterprises have fought to maintain their monopolistic position by opposing the too rapid expansion of industrial-type ancillary enterprises by cooperative farms and the development of inter-sectoral enterprises.

Non-agricultural activity is of undoubted importance to cooperative farms, contributing 21.2 percent of cooperative income in 1973, almost half of which (9.8 percent) was from industrial activity. The practice of cooperative farms engaging in purely industrial ventures has now been greatly curtailed,<sup>27</sup> after it was found that some cooperatives had constructed airfields, operated printing works, and carried out other projects unconnected with agricultural activities.<sup>28</sup> However, some complaints have been quite unfounded, as when one industrial producer tried to stop cooperatives from fermenting their own cabbage crops.<sup>29</sup> In another case, the Milk Industry Trust tried to prohibit the marketing of dairy products produced by inter-sectoral cooperative-state associations.<sup>30</sup>

The result of this kind of opposition has been to hinder the development of industrial activity by cooperatives and the growth of vertical integration.

In 1974, Hungary had 515 joint enterprises involving cooperative farms, of which 265 were independent enterprises.<sup>31</sup> However, about 80 percent of these enterprises involved only cooperative farms, and were not truly speaking inter-sectoral enterprises.<sup>32</sup> Most of the associations dealt with construction and marketing, and only 15 percent were in any way agricultural.<sup>33</sup> Apart from the problems mentioned, cooperatives are disinclined to enter into inter-sectoral enterprises because such bodies come under tax laws relating to state enterprises, which are disadvantageous to cooperatives. Moreover many Hungarian cooperatives lack sufficient capital to participate in joint

<sup>25</sup> Aref'ev and Karpenko, *op. cit.*, p. 110.

<sup>26</sup> *Rabotnichesko Delo*, 12 June 1976.

<sup>27</sup> See *Magyar Nemzet*, 11 December 1971.

<sup>28</sup> See *Magyar Hirlap*, 3 December 1971.

<sup>29</sup> *Ibid.*

<sup>30</sup> *Ibid.*, 27 April 1973.

<sup>31</sup> Aref'ev and Karpenko, *op. cit.*, p. 110.

<sup>32</sup> Fischer, *op. cit.*, p. 41.

<sup>33</sup> *Nepszabadsag*, 10 April 1975.

enterprises.<sup>34</sup> For their part, some directors of state enterprises fear that state funds will be dissipated in enterprises involving cooperatives. Faced with these obstacles, cooperatives have tended to establish their own processing plants and other ancillary industrial activities.<sup>35</sup>

In export branches of agricultural production, state-owned enterprises have formed vertically organized combines in Hungary. For example, the Tokaj Wine Combine operates as an independent enterprise, subject only to the direct supervision of the Ministry of Agriculture and Food.<sup>36</sup> It processes its own grapes (about 40 percent of the total it processes) and purchases the production of nearby cooperative farms and cooperative farm members. The Combine sells its wine through the usual wholesale, retail, and export channels, but also has its own network of shops for the sale of wine and grapes.<sup>37</sup>

In March 1975, the decisions of the Eleventh Congress of the Hungarian CP strongly favored the furtherance of joint activities of state farms, cooperative farms, and state enterprises based on contractual links.<sup>38</sup> This spurred practical developments to set up large-scale agro-industrial associations, the first of which was organized in Nadudvar in April 1976.<sup>39</sup> The association, which showed similarities to East German cooperation unions, combined on a contractual basis 14 cooperative farms, 1 state farm, and the Debrecen Poultry Processing Enterprise. The enterprises retained their economic and legal independence within the association. Under the regulations governing such associations, the cooperative and state enterprises contribute to the association from their development funds, and share in the profits in accordance with their investments. The association's operational costs are supposed to be covered by income, and part of the association's profits goes towards a social and cultural fund. Should a member decide to leave the association, the regulations provide that only the financial equivalent of the property and funds contributed at the start will be returned.<sup>40</sup> Other agro-industrial associations for vegetable production, cattle breeding, and other specializations were created in the autumn of 1976.<sup>41</sup> Some of those associations market as well as process what they produce. It is likely that increasing emphasis will be placed on building agro-industrial associations in the next few years, especially since they appear to bypass so many of the problems found in the old form of inter-sectoral enterprise.

In Rumania, the Inter-Cooperative Councils received new powers at the end of 1976 to encourage vertical integration in agriculture. The local Councils are to stimulate the development of a wide range of industrial and processing activities linking farms closely with industrial enterprises and processing units run by consumer cooperatives in the area. The Councils are also called upon to set up units for storing and partially processing vegetables, fruits, and other products. Where conditions are suitable, bakeries, butcher shops, and milk and meat processing units are to be established under local Council auspices.<sup>42</sup>

<sup>34</sup> *Magyar Hirlap*, 27 April 1973.

<sup>35</sup> Fischer, *op. cit.*, p. 41.

<sup>36</sup> *Figyelo*, 10 February 1971.

<sup>37</sup> Aref'ev and Karpenko, *op. cit.*, p. 110.

<sup>38</sup> *Nepszabadsag*, 23 March 1975.

<sup>39</sup> *Ibid.*, 27 April 1976.

<sup>40</sup> *Magyar Kozlony*, 19 June 1976.

<sup>41</sup> See for example *Magyar Nemzet*, 3 November 1976.

<sup>42</sup> *Agricultura Socialiste*, 26 February 1977.

It is likely that progress with such developments will be slow because of lack of sufficient investments, but it is too early to evaluate the success of the plans for vertical integration in Rumania. Vertical integration of agriculture in Czechoslovakia has made no progress to date.

#### CONCLUSION

It is clear that there is no uniform approach to the problem of agricultural integration in Eastern Europe. Bulgaria has pushed ahead, particularly with horizontal integration, to the extent that many socialist farms in that country are no longer independent economic units. East Germany has also developed integration projects, but in these, enterprise autonomy is retained. Bulgarian and Rumanian arrangements give cooperating enterprises least autonomy, whereas in Hungary, the CPS allows farms the most autonomy, in East European integration schemes. Integration has proceeded farthest in Bulgaria, and is least developed in Czechoslovakia.

Experience has shown that large production units in Communist agriculture cannot on their own guarantee the concentration and specialization of production. To be effective, integration plans must be accompanied by other measures, particularly reductions in the range of products that the production unit (whether farm or complex) must deliver and changes in management techniques. There must also be adequate investments in new machinery and technology, and sufficient numbers of trained personnel must be available. It is of course possible to impose integration plans on farms and enterprises before conditions are suitable, as is being done in some countries under discussion, but this is likely to lead to a waste of resources without achieving the anticipated benefits. Moreover, the available indications are that very big horizontally integrated enterprises are hardly more efficient than the smaller farms and enterprises they replaced. The task then for the East European countries implementing agricultural integration is not only to choose systems most suitable for their conditions, but also to improve the overall efficiency of agricultural production within the organizational framework chosen. The latter task will undoubtedly prove more difficult to accomplish in the foreseeable future.

# HUNGARIAN AGRICULTURAL PERFORMANCE AND POLICY DURING THE NEM

By Z. EDWARD O'RELLEY\*

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## I: INTRODUCTION

The position and achievements of the Hungarian agricultural sector during the last decade—the period covered in this report—may be characterized by increasing specialization, growth, and efforts at increased accommodation to an altered set of external conditions. Following the major policy shift of the late 1950's, noteworthy accomplishments have been made in transforming agriculture from its relatively unfavored position of merely supporting the strategy of

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super-rapid industrialization (by being the chief source of "primitive socialist accumulation") into a modern capital intensive sector with equivalent access to investment resources, technology, and innovation. The last decade (generally, the period of the New Economic Mechanism agriculture) may be viewed as a period of both consolidation and further growth: consolidation of the achievements of the "socialist transformation of agriculture" (1959-61) in which the large scale collectivization of peasant farming was completed successfully, and growth of agricultural output was accomplished primarily by means of increased use of artificial fertilizers, herbicides and insecticides, increased mechanization, and the greater application of scientific techniques and processes to agricultural production (as in the existing "closed production systems").

The period of the 1960's and early 1970's coincided with the recognition by the leadership that, within certain limits, rising consumption is not inconsistent with the expenditure of greater effort by the population and thus with future growth. Hungary experienced an uninterrupted increase in per capita real income during this period, leading to a proportionately greater demand for higher quality foods of animal origin such as pork, beef, poultry, and dairy products. The agricultural sector, in addition to generating increased foreign exchange earnings through its exports, was therefore given the task of satisfying domestic consumer needs. Years of sustained effort—in terms of increased physical inputs, technology, and appropriate economic incentives to producers—still lie ahead, however, before the "scientific agricultural revolution" is completed and agriculture becomes generally characterized by factory-type production systems and efficient interlinkages with other sectors. The successes achieved in increasing agricultural output as well as the reasons for the failures to achieve desired goals are discussed and assessed in the ensuing sections, followed by a discussion of changing agricultural policy issues, primarily as these issues found expression in the provisions of the New Economic Mechanism (NEM) pertaining to agriculture.

## II: THE ROLE AND ORGANIZATION OF AGRICULTURE

The contribution of agriculture to Hungarian national income has declined during the last decade from one-fourth in 1965 to slightly over 15 percent in 1975. The agricultural sector uses approximately 17 percent of the country's fixed assets, receives about 18 percent of annual state and cooperative investment, and employs over one-fifth of the country's work force. The share of the agricultural sector in the country's non-socialist exports is about 50 percent, down from 40 percent a decade ago.

Hungarian agricultural production takes place on state farms, collective farms or "agricultural producers' cooperatives," household plots of collective farm members, and "auxiliary" or private farms. In terms of total agricultural output and land area used, large farms—i.e., state farms and the common portion of collective farms—predominate. Nevertheless, small farms—i.e., household plots of collective farm members and private farms or gardens—have been very important in terms of their contribution to the output of selected branches of agriculture such as vegetable gardening and livestock production.

The traditional uneasy coexistence of private and public farming in socialist agricultures has undergone a basic alteration in Hungary since the late 1960's. Recognizing the difficulty and expense of expanding certain types of production—vegetable growing, dairying, pork production—on large scale farms in the socialist sector, the Hungarian government seemed to recognize early the potentialities inherent in small scale, privately controlled agriculture. The ideological imperatives of stressing the importance of "socialist" forms of production have not vitiated the pragmatic considerations of increasing domestic food supplies and foreign exchange earnings via the output of privately controlled agriculture; private plot production is classified as being in the "socialist" sector, thereby escaping the necessity for invidious comparisons.

Many of the restrictions have been removed from household plot and private production, and high officials have repeatedly exhorted collective farms to render greater assistance to household production. Between 1965 and 1968 the output of small tools and machines suitable for small scale producers tripled,<sup>1</sup> and in 1969 the restrictions concerning the number of animals that could be kept on private plots were removed.<sup>2</sup>

The last few years have been characterized by a slight decrease in the total cultivated area, primarily by state farms and household plots. Agricultural activities are pursued on a total cultivated area of 8,349 thousand hectares, of which 59.7 percent is arable land; the rest is used for gardens (1.8 percent), orchards (1.9 percent), vineyards (2.5 percent), meadows (4.6 percent), pastures (10.6 percent), and for other purposes such as forests and reeds (18.9 percent). In 1975 Hungary had 151 state farms, 1599 agricultural producers' cooperatives, 266 cooperative associations, 144 specialized agricultural cooperatives, 20 cooperative fisheries, 800 thousand household plots and approximately 120 thousand small private gardens, orchards, or vineyards. The general tendency in the socialized sector (state farms and common property of collective farms) has been the enlargement of size, while the average size of household plots and private holdings has remained roughly constant since 1965. State farms and the common property of collective farms together occupy 72.5 percent of the total cultivated land area, with household plots and private holdings together accounting for 13.6 percent (the rest of the area is made up of other state properties and uncultivated land). While the privately controlled holdings occupy only 13.6 percent of the agricultural area, their contribution to the value of agricultural output is about 34 percent. In 1975, small scale producers were responsible for 35 percent of the country's vegetables, 46 percent of its fruit, 42 percent of wine production, and over 50 percent of pork production.<sup>3</sup>

### III. AGRICULTURAL OUTPUT

As elsewhere in Eastern Europe, weather is still a major determinant of agricultural production in Hungary. Wide yearly fluctuations still occur in the output of certain crops. For instance, in 1974 a cold, rainy fall inflicted heavy damage on the grape crop, causing wine production

<sup>1</sup> *Fejer Megyei Hírlap*, October 17, 1968. Despite the increased output, however, even today there are reports of long waiting lists for certain types of machinery in this category.

<sup>2</sup> *Magyar Kozlony*, December 31, 1969.

<sup>3</sup> *Nepszabadsag*, September 10, 1975.

in that year to decline by 35 percent as compared to 1973. In 1975, flood damage reduced the wheat crop by about 20 percent. It is, therefore, more meaningful to examine average annual increases over a period of time, such as over the convenient five-year planning periods.

The value of gross agricultural output increased generally according to plans during the last two quinquennia. The third Five Year Plan (FYP) period (1966-70) called for an average annual rate of increase of 2.6-3 percent; the rate reportedly realized was 2.8 percent. During the fourth FYP period (1971-75), the reportedly realized output increase of 3.4 percent exceeded the planned rate of 2.8-3 percent. During both FYP periods the output of food processing grew at a higher rate than did raw agricultural output. As usual and as expected, both agricultural output and the output of the food processing industry increased at a slower rate than did national income. Because of the inherent weakness of gross output indices (primarily due to the inclusion of intermediate products), however, the achievements and problems related to the production of particular major products also will be considered in the ensuing paragraphs.

#### *A. Crop Output and Yields*

During the third FYP period, crop production was up by an average of only 1.9 percent, much lower than the reported 3.9 percent increase for the livestock sector. Crop output during the fourth FYP (1971-75) was 16 percent higher than during 1966-70, for an average annual increase of 3 percent. Hungary, achieved outstanding success in two major crops (wheat and corn), while the production of sugar beets and, especially more recently, of vegetables lagged behind expectations and domestic needs.

*Crop output averages for 1971-75 (1966-70=100)*

Crops:	Output during 1971-75
Wheat.....	143.4
Rye.....	77.6
Barley.....	96.1
Corn.....	147.3
Sugar beets.....	97.5
Potatoes.....	79.5
Fruits.....	113.7
Vegetables.....	103.1

Wheat is a major crop whose importance lies in the fact that it satisfies the nation's demand for bread (which is still a major staple in Hungary), it contributes to foreign exchange earnings, and it is the major source of cash income for many collective farms.<sup>4</sup> Since the 1960's, when the country was forced to import wheat to feed its population, major strides have been made in increasing production. Average output during 1971-75 was 43 percent higher than during 1966-70. Today, the application of advanced technology and high yields characterize Hungary's wheat production.

Wheat output in 1975 was lower than usual because of adverse weather conditions. During the rain-soaked harvest, field operations were delayed and in some areas harvesting combines could not even

<sup>4</sup> *Figgelo*, June 19, 1974

get on the fields. The major obstacle to further increases in wheat production, however, is the continued acute shortage of adequate drying and storage capacity.<sup>5</sup>

Impressive results have been reached also in *corn* production. In recent years, output and yields reached unprecedented levels because of adequate rain during the growing seasons, good weather during the harvests, and the continuing extension of industrial methods of production (now over 60 percent of the crop is produced under this method). Average output during 1971-75 was over 47 percent above the 1966-70 output level. In 1975 total corn output reached 7.1 million tons, and yields reached an average of 50.2 quintals per hectare. While there were increases in the yields of other grains such as rye and barley, their output did not reach the 1966-70 average during 1971-75 because of reduced acreage.

In the past, domestic production of sugar beets generally was sufficient to satisfy domestic sugar requirements and, occasionally, even to result in sugar exports. During the late 1960's, however, due to conflicting and controversial government decrees, there was a reduction in sugar beet acreage, reducing output to 1.9 million tons on about 74 thousand hectares in 1971. Since then, due to the slow expansion of the area under cultivation, production did not increase sufficiently to eliminate sugar imports, since, in the interim, because of higher incomes, domestic demand for sugar has increased. The sugar beet crop amounted to 4.1 million tons in 1975, harvested from 127 thousand hectares. Acreage was increased about 30 percent in order to eliminate or substantially reduce the need for sugar imports (imports that could be obtained only for hard currency). While acreage was higher, the sugar yield from the crop was poor because of inadequate processing facilities. Thus sugar imports have continued.

Hungary's most important oil seed crop is sunflower. About 80 percent of the sunflower crop is planted with high yielding Russian varieties; in recent years sunflower seed oil has been an important source of foreign exchange. Other oil seeds produced in Hungary include rapeseed, flax, and soybeans. Soybean production is still in a rather experimental stage, however, despite the development of a strain to suit local conditions. Due to the expected low profit potential, many producers have been reluctant to grow soybeans and produce highly profitable corn instead. The country can cover only about 20-25 percent of its oilseed meal requirements from domestic sources; the rest must be imported to satisfy the demand of its expanding livestock industry.

The production of vegetables during 1971-75 was only 3 percent higher than during 1966-70. Compared to the previous year, in 1976 acreage shrank from 120 thousand to 108 thousand hectares and output declined by 17 percent.<sup>6</sup> The problems of vegetable production are not new, since fulfillment of vegetable production plans fell short also during previous periods. The major cause of production problems has been not the weather but the reduction of material incentives to producers. The production costs of vegetable production increased both absolutely and as compared to the cost of producing other crops.

<sup>5</sup> For a discussion of storage problems, see Section IV below.

<sup>6</sup> For an elucidating discussion of current problems, see *Figyelo*, June 23, 1976.

As the cost ratios for vegetable production deteriorated; many producers rechannelled their resources into more profitable employments.

Agricultural labor is expensive and is often not available in sufficient quantity during peak demand periods. Mechanization—with the notable exception of the production of green peas—so far has increased only the cost of production but not its yields. Between 1970 and 1974 labor costs rose by 22.5 percent whereas the producer prices of potatoes and vegetables were up by only 8 percent and 11 percent, respectively. Even though producers can obtain machinery for vegetable production at a 70 percent state subsidy, production is still unprofitable. In some cases, such as at the Kossuth Cooperative in Tompa, mechanization meant losses. A 40 percent profit by the farm at tomato growing via labor intensive methods during 1970–71, changed to a substantial loss (on the area devoted to tomato growing) by 1976 because of the purchase and use of machinery.<sup>7</sup> According to some estimates, in 1975 and 1976 most farms were raising vegetables at a loss.<sup>8</sup>

### B. Livestock Production and Yields

The output of the livestock sector showed a rapid average annual rate of increase of 3.9 percent and 4 percent during 1966–70 and 1971–75, respectively. However, at least during the fourth FYP, performance was worse than reported because of large scale slaughtering of breeding stock of both cattle and hogs during 1974 and 1975. Poultry and egg production showed solid gains: poultry production during 1971–75 exceeded that of the previous five-year period by 33 percent; egg production, by 26 percent.

*Livestock, livestock product, and fish output averages for 1971–75 (1966–70=100)*

Slaughter animal or animal product:	Output during 1971–75
Cattle.....	105. 2
Hogs.....	140. 5
Sheep.....	100. 0
Poultry.....	132. 8
Milk.....	100. 2
Eggs.....	125. 5
Fish.....	116. 7

Source: See appendix table 9.

Cattle breeding and milk production are considered by many as the most backward branches of Hungarian agriculture.<sup>9</sup> Performance during the last few years has done little to alter this image. Cattle stocks are smaller than planned, the number of cows is fewer than a decade ago, and milk production as well as milk yield have stagnated over the years. The production, handling, and storage of rough fodder improved little over the last three decades.<sup>10</sup> Since 1960 over thirty government decrees have been promulgated in connection with cattle breeding; none of them enjoyed any lasting success, since they were unable to improve profitability. Indeed, cattle breeding and milk

<sup>7</sup> *Ibid.*

<sup>8</sup> *Ibid.*, September 22, 1976.

<sup>9</sup> *Nepszabadsag*, January 28, 1976.

<sup>10</sup> *Ibid.*

production have been basically unprofitable (except on small farms), with production costs rising faster than milk yields and revenues. While milk yields on the average were less than 2,400 liters per cow in 1975, great disparity is observable among the three basic types of producers: on collective farms the average yield is 2,300 liters; on state farms, 3,300; on small peasant farms, 5,000.<sup>11</sup> While during 1971-75 total milk output reached that of the previous five years, it was 14 percent less than planned (9.2 billion liters as opposed to the planned 10.5 billion), and milk yields per cow were 10 percent lower than planned.<sup>12</sup>

At the end of 1975 the total cattle population numbered 1.9 million, down 5 percent from the previous year. The number of cows declined by 4.6 percent in one year, down to 760 thousand. After two years of emphasis on milk production, in 1974 emphasis was shifted to meat production. This policy was continued in 1975 when the prevailing high prices of fodder and feed made milk production increasingly unprofitable.<sup>13</sup> The reduced profitability forced many producers to abandon milk production and market their cattle for meat. While this policy, therefore, increased meat output for 1975, it resulted in a drop in milk production. These developments came, moreover, at a time when the government continued its program of attempting to expand milk supplies, in part to cover the rising demand of the population for dairy products. Nor are the shortages of dairy products likely to be eliminated in the near future, even when the cow population regains its former size. The stagnation of milk yields can be reversed by means of cross breeding, but only after a period of time can widespread increases in yields be expected. In the interim, two forces will tend to exacerbate the prevailing shortages: first, increases, however small, in per capita real incomes in the years ahead will increase the demand for dairy products more than proportionately to the increases in income; second, the altered relative prices of meat and dairy products (following the July 1976 meat price increase) will result in increased demand for dairy products—even with unchanged incomes.

The production of hogs for slaughter increased by 7.5 percent in 1975 as compared to the previous year, exaggerating the significant apparent increase for 1971-75 over 1966-70. The reason for the increase was the abandonment of pig breeding and the slaughter of many sows by small scale producers, thus contributing to the subsequent absolute drop in hog production in 1976.

Small scale producers (users of household plots and owners of small private holdings) account for over 50 percent of total pork production in Hungary.<sup>14</sup> About half of this output is consumed by the breeders themselves; the other half is purchased by procurement agencies. In addition to the declining profitability of hog breeding in general—which reduced the output of collective farms also—small farmers were discouraged from hog production in at least two other ways. First, the procurement agencies inflicted losses on the producers by long delays in purchasing that necessitated the use of additional fodder; second, the local tax authorities were seeking additional taxes from

<sup>11</sup> *Magyar Hírlap*, April 18, 1976.

<sup>12</sup> *Pivýelo*, June 2, 1976.

<sup>13</sup> *Magyar Nemzet*, May 23, 1976.

<sup>14</sup> *Pivýelo*, August 4, 1976.

small scale producers, claiming that hog breeding entailed a 60 percent profit. Both policies resulted in discouraging hog raising. As a consequence, the hog population was 1.3 million head fewer in December 1975 than it had been a year previously, including a decrease of over 100 thousand in the number of sows.<sup>15</sup> As could be expected, the production of slaughter hogs fell in 1976. The substantial meat price increases in July of that year, however, can be expected to alleviate the existing shortages through expanding supplies by making hog production more profitable and through encouraging the use of substitutes in the population's diet.

#### IV. RESOURCE USE

Expanding agricultural production was accompanied by the substitution of increased machinery, fertilizer, and technology<sup>16</sup> for some of the land and labor used by the farms. There was a slight reduction in the land area used for crops and livestock, primarily because of forestation projects and various industrial, mining, transportation, and urban development projects. Agricultural employment fell to about one-fifth of the labor force. Further reductions are certain, primarily as a result of the young leaving agriculture. Moreover, manual laborers are difficult to attract or keep in agriculture because of the differences that still exist in wage rates and conditions of work between agricultural and nonagricultural employment. The young who do stay in agriculture prefer certain "fashionable" trades such as ornamental plant growing. Interest among the young in animal breeding, on the other hand, has been on the decline for years.<sup>17</sup> The main reason why labor shortage in the collectives has not become more acute is the spread of closed production systems and the associated expansion in the use of modern, Western machinery with labor replacing qualities.

On the basis of quantitative indicators, significant amounts of resources were devoted to agriculture during the last decade. The use of chemical fertilizers more than doubled since 1965 (to a respectable 270 kg. per hectare of agricultural land) and there was an expansion in irrigation capacity. The number of grain combines and trucks increased from 9 thousand and 7 thousand, respectively, to 14 thousand and 21 thousand, respectively, in ten years. Mechanical hauling power as a percentage of total hauling power increased during the last decade from about 75 percent to close to 100 percent. While the number of tractors fell, their capacity improved. Agricultural work has become much easier since the advent of the Raba-Steiger tractors that are manufactured through a U.S.-Hungarian cooperative agreement.

The appearance of the Raba-Steiger tractor has been a particularly bright spot in the recent history of Hungarian agricultural mechanization. With the advent of closed production systems in Hungary during the early 1970's, it became obvious that agriculture needed high-powered, efficient, multi-purpose machinery. Such machinery not being available in the Soviet bloc, the Hungarians turned toward

<sup>15</sup> *Nepszabadsag*, March 18, 1976.

<sup>16</sup> For a discussion of technological changes and the various closed production systems, see Section VII below.

<sup>17</sup> Comments by Minister of Agriculture and Food Pal Romany *I Elelmezési npar*, July, 1976, translated by JPRS (October 14, 1976).

Western markets. A few Steiger tractors were purchased in 1973 and assigned to the Babolna Agricultural Combine for testing.<sup>18</sup>

In 1974 the U.S.-made tractors were introduced on farms using the closed production system under the direction of Babolna. They achieved instant success and the acquisition of more such tractors was proposed. At the prompting of Babolna farm managers the Hungarian Wagon and Machine Factory in Győr bought a license and also entered into a cooperative agreement with Steiger for joint production of a Raba-Steiger 245 H.P. machine. According to the plans of the Ministry of Agriculture and Food, by 1980 there will be about 1,000 Raba-Steiger tractors operating on Hungarian farms.<sup>19</sup>

Certain problems in mechanization do exist, however, and mere quantitative indicators hide some important problems. Difficulties exist because many domestically made tractors are hopelessly obsolete,<sup>20</sup> because of the low capacity of some of the Soviet made combines, and because of the perennial scarcity of spare parts and delays and interruptions in machinery deliveries from the CMEA countries. For instance, the Soviet Union has often failed to deliver newly ordered machines on time, and German Democratic Republic and Czechoslovakia have frequently failed to supply the necessary spare parts.<sup>21</sup> Despite public statements by the leadership that small scale farms should be better supplied with machinery, the flow of machinery and spare parts to these farms has been poor for years. Shortages have existed in small tractors from Czechoslovakia, in inexpensive Italian garden sprayers, and even in garden tools such as spades. It seems that the Hungarian machine industry is given no incentive for producing for the small farmer. There is also a shortage of multi-purpose machinery to be used with the Raba-Steiger tractors.<sup>22</sup>

While the government has provided significant support to increase mechanization, resources have been underallocated to the establishment and expansion of storage and processing facilities, as in grains and sugar beets. Such capacities have often failed to keep pace with the growing production of crops. In the case of grains, there is a serious shortage of both drying and storage capacity. While total drying capacity approximates total requirements, much of the equipment is outmoded, its regional distribution is inconsistent with the location of production, and its misuse (e.g., excessively rapid drying) results in lower quality grains.<sup>23</sup> Modern grain storage capacity is only 2 million tons, about half of requirements.<sup>24</sup>

The production of sugar beets has also expanded more rapidly than has storage and processing capacity. Because of the slower expansion of processing capacity, the required factory processing period has increased to 150-160 days (instead of the optimal 80-90). The longer storage, in turn, has decreased the sugar content of the beets.<sup>25</sup> In recent years there has been also a shortage of cold storage

<sup>18</sup> *Nepszava*, September 27, 1975.

<sup>19</sup> *Figyelo*, September 17, 1975.

<sup>20</sup> Some domestically manufactured tractors are so obsolete that spare parts for them have to be made to order. Some of these tractors are expected still to be in use in 1977. See *Nepszabadsag*, July 23, 1976.

<sup>21</sup> *Magyar Nemzet*, June 18, 1974; *Magyar Hirlap*, November 16, 1975. To bring the spare parts supply problem under control, an airlift was organized in 1976, but its cost turned out to be almost prohibitive. See *Nepszabadsag*, July 1, 1976.

<sup>22</sup> *Magyar Hirlap*, October 28, 1975.

<sup>23</sup> Sandor Kovacs and Jenő Vancsa, "Mezőgazdasági termelés—élelmiszeripari feldolgozás," *Társadalmi Szemle*, XXXI (April, 1970), pp. 64-75.

<sup>24</sup> *Figyelo*, July 14, 1976.

<sup>25</sup> Kovacs and Vancsa, *op. cit.*

space, hampering the expansion of frozen food exports to the West. Almost one-third of the machinery and equipment in that industry is obsolete and needs replacement.<sup>26</sup>

## V. DOMESTIC CONSUMPTION AND FOREIGN TRADE

The consumption and foreign trade of agricultural commodities are related through the regime's efforts to improve the population's diet. Over the years, the change in the importance of domestic consumption has been revealed by conscious choices, often resulting in reduced exports or increased imports of foodstuffs.

Consumption of high quality foods has increased substantially during the last ten years. For instance, the per capita consumption of meat and fish together increased by 32 percent; of eggs, by 44 percent. While 1975 and 1976 were characterized by shortages of milk and dairy products at existing prices, over the last ten years the consumption of dairy products (without butter) increased by 29 percent. As expected, as a result of increases in per capita incomes, per capita consumption of potatoes and flour (bread) declined absolutely.

In some years exports of foodstuffs were decreased or imports increased to ensure uninterrupted food supplies. For instance, starting at the end of 1974 and continuing through 1975 milk production fell. To avoid shortages at the existing prices, cheese exports and the production of powdered milk for animal feed were reduced. In 1976, expecting increased domestic demand, cheese exports were discontinued, powdered milk production was further reduced, and the country resorted to butter imports. Also in that year, vegetable and potato shortages were alleviated through imports.<sup>27</sup>

Agricultural products have not been unimportant in Hungary's foreign trade, and their importance is likely to increase as a result of the 15-year agricultural agreement signed with the U.S.S.R. in October 1975<sup>28</sup> and another barter agreement, signed in early 1976, whereby Hungary is to swap agricultural commodities for Soviet oil, cotton, timber, and cellulose.<sup>29</sup> To live up to these agreements, Hungary will undoubtedly have to increase its agricultural output, especially livestock breeding. As the responsibility for meeting the increased export commitments will fall mainly on the state and collective farm sectors, the position of small scale producers in meeting the domestic demand for food is not likely to fall.

Since 1965 Hungary has successfully eliminated its wheat imports and has become a net exporter of wheat. Slaughter cattle and pig exports have expanded, as has the export of corn, dressed poultry, pork, and eggs. While the 1974 EEC meat embargo reduced Hungary's lucrative beef exports to Western Europe, these exports were redirected to the U.S.S.R., also for hard currency.

Two major commodities—animal feed and sugar—have had to be imported, despite efforts to eliminate such imports.

Protein fodder is an essential ingredient in meat production. Domestic production of protein fodder satisfies only about two-thirds

<sup>26</sup> *Figyelo*, April 25, 1975.

<sup>27</sup> *Nepszava*, May 21, 1976.

<sup>28</sup> *Világgazdaság*, October 23, 1975; *Nepszabadság*, December 19, 1975.

<sup>29</sup> *Világgazdaság*, March 27, 1976.

of demand; the rest is imported, mainly from the West. Future increases in domestic fodder production are likely, however. Hungarian scientists have perfected a process that transforms nontoxic grasses and waste vegetables into edible protein. The process has been licensed worldwide under the Vepex trademark and made available for export. Several Western countries have bought licenses.<sup>30</sup>

Raw and processed agricultural products account for close to one-half of Hungary's exports to the West. Hungary is making great efforts to reverse its unfavorable Western trade balance by increasing agricultural exports. It seems, though, that its efforts are not likely to be very successful until its problems surrounding domestic livestock and vegetable production and processing are successfully tackled.

## VI. PRODUCTION PLANS THROUGH 1980

The fifth FYP<sup>31</sup> envisages a 3.2–3.4 percent average annual increase in the gross output of agriculture. Crop output is to increase at a 3.6–3.8 percent rate; livestock production, at 3 percent. The most important areas to be emphasized are cattle breeding, pig breeding and fattening, vegetable farming, and fruit farming. The food processing industry is to increase its output at an average annual rate of 5.2 percent, mainly as a result of several new investments and reconstruction projects.

Grain production is to increase to 14 million tons; grain exports, to 3 million tons. Central grain storage capacity is to be expanded to 2.7 million tons. Cereal production is to increase via increased yields. Plans also call for a "considerable" increase in fruit and vegetable production, as well as an increase in the area (by 40 thousand hectares) devoted to oilseed crops.

The law stipulates that meat and milk production are to be increased—the former by 12–13 percent, the latter by 14–15 percent over the 1971–75 average. The keeping of livestock on household and private garden plots is to be supported more intensively than in the past. Marketing channels are to be improved and the acquisition of sows and fodder supplies will be guaranteed to small scale producers.

The bulk of investment resources is to be allocated with the aim of increasing the level of mechanization and expansion of capacities via reconstruction projects. Export oriented or import replacing activities are to get major support. For instance, new meat processing plants will be built at Gyula, Baja, and Szekszard, a cold storage plant at Zalaegerszeg, and a vegetable oil plant at Martfu. Another meat processing plant, already started at Szeged, is slated for completion, and cold storage plants will be completed at Miskolc and Szekesfehervar. Plans have been finalized also for a new sugar beet processing facility at Hajdusag. These processing facilities will facilitate Hungary's compliance with the ten-year Soviet-Hungarian barter agreement (concluded in March, 1976) whereby Hungary is to exchange processed agricultural materials for Soviet raw materials.<sup>32</sup>

<sup>30</sup> *Nepszava*, August 10, 1975.

<sup>31</sup> See *Nepszabadsag*, December 21, 1975, Supplement; *Hungaropress*, 1976, No. 1-2.

<sup>32</sup> For details, see *Magyar Hirlap*, May 1, 1976.

## VII. NEW FEATURES IN HUNGARIAN AGRICULTURE

## A. The NEM in Agriculture

The basic aim of the Hungarian reform was the sustained and balanced growth of national income by means of allowing a broader scope to a "guided" market. In agriculture as well as in the other sectors, instead of the former system of administrative control and binding operational instructions, the state was to confine itself to methods of indirect control (procurement prices, credits, subsidies), leaving specific production decisions to the producers. Such freedom on the part of producers, in turn, was conceived of as a necessary condition for the achievement of greater economic efficiency.

Introduction of the basic principles of the NEM into the agricultural sector<sup>33</sup> meant a significant alteration in the role and functioning of the existing collective farms. The first noteworthy change came in August, 1965, when interference by district councils in the planning process of collective farms was prohibited. Instead, the agricultural cooperatives were to prepare their plans on the basis of contractual agreements with state procurement agencies, the only compulsory target remaining the acreage to be sown with bread grains.<sup>34</sup> Concurrently, steps were taken to increase the cooperatives' bargaining power relative to that of the monopolistic state agencies; according to the law, contacts had to be based upon the principle of equality.<sup>35</sup> The basic reform blueprint itself was contained in the May, 1966, Central Committee resolution,<sup>36</sup> as approved and further expanded by the Ninth Party Congress later that year.<sup>37</sup> The appropriate laws pertaining to the agricultural producers' cooperatives were passed by the fall session of Parliament in 1967 and became effective on January 1, 1968.<sup>38</sup>

As part of the effort of placing the operations of collective farms on a more businesslike basis, procurement prices were selectively increased. The procurement price level had already been increased 9 percent in 1966 and another 8 percent in 1967.<sup>39</sup> Starting with 1966, collectives had to form depreciation funds for the replacement of buildings, machinery, and other assets. Just as state enterprises did, they also had to establish the usual development, sharing, and reserve funds. In spite of all this, however, even today agricultural producers are far from being financially independent. Due to the continuing low procurement prices—because of efforts to maintain both low domestic food prices and the competitiveness of agricultural products in foreign grade—an elaborate system of state subsidies has had to be maintained in agriculture. Subsidies are available for construction, machinery, breeding stock, adverse natural conditions, and even for the employment of qualified experts. In anticipation of greater financial independence, there was also a revaluation of agricultural assets. That

<sup>33</sup> In the following discussion, "agricultural reform" will pertain mainly to the reforms in the collective farm sector. In 1968 collective farms covered some 80 percent of the total agricultural area.

<sup>34</sup> *Keletmagyarország*, August 25, 1965. This requirement was eliminated subsequently.

<sup>35</sup> See Janos Keseru, "A gazdasagi mechanizmus reformjanak egyes kerdesei es a termelozovetkezetek," *Kozgazdasagi Szemle*, XIII (October, 1966), pp. 1149-1150.

<sup>36</sup> *Nepzabadsag*, May 29, 1966.

<sup>37</sup> *Ibid.*, December 4, 1966.

<sup>38</sup> See *Magyar Kozlony*, October 11, 1967. For enabling decrees by the minister of agriculture and food, see *Magyar Kozlony*, October 24, 1967. The following secondary sources provide an in-depth explanation of the reform in the agricultural sector: Miklos Villanyi, *Penz es hitelgazdalkodas a mezogazdasagban* (Budapest: Kozgazdasagi es Jogi Konyvkiado, 1968); and Laszlo Csate, *Jovedelem, koltsseg, ar a termelozovetkezetekben* (Budapest: Kozgazdasagi es Jogi Konyvkiado, 1967).

<sup>39</sup> *Nepzabadsag*, January 27, 1967.

portion of the collective farms' debts in excess of the value of their fixed assets was written off as of December 31, 1966. To help place all collectives on a more equal financial basis, a graduated land tax was introduced reflecting the differences in the relative productivities of different parcels.

The regulations effective January 1, 1968, attempted to provide greater production incentives, fuller resource (primarily labor) utilization, and greater competition in the production, processing, and sale of agricultural products. The methods used included the multi-channel distribution system, changes in the rules pertaining to the distribution of collective farm income, increased governmental emphasis on household plot and ancillary production activities, and the establishment of interest group representation for collective farms.

Under the old system, collective farms were compelled to sell their products to designated purchasing enterprises at specific procurement prices. The principle of equal rights, accompanied by the formation of the multi-channel distribution system, meant that with the exception of products specified as state monopoly (slaughter beef and hogs, bread grains, tobacco, etc.), farms were allowed to purchase their inputs from a variety of sources and to sell their produce to a variety of buyers. They were also allowed to transport their products to different parts of the country to take advantage of market opportunities. While an official distribution channel for fodder existed for the use of state and collective farms until 1969, small scale producers were allowed to purchase fodder on the free market only, frequently at twice the official price. In 1970 the state Grain Trust established a widespread distribution network in the villages, causing a more equal distribution of animal feeds.<sup>40</sup>

Prior to the reform, income distribution took place in accordance with the residual principle; the farm had to meet all its financial obligations toward the state and other claimants, and only then could members be paid. This system led to a mass emigration of able-bodied manpower from agriculture in search of superior alternatives in industry. The average age of collective farm membership rose to between 54 and 55 years,<sup>41</sup> with most members of the "weak" collectives being between 60 and 70 years old.<sup>42</sup> At the same time the farms were forced to hire able-bodied employees at the higher, competitive wage. The hired employees also enjoyed the superior social benefits already available to industrial workers.<sup>43</sup>

The reform specified that for members, work on the collective farm is not only a duty but also a right. Managements, therefore, were instructed to ensure steady employment for the members, in accordance with their skills. Further, the residual principle was abolished and members' incomes were thereafter determined on the basis of regular cash payments and year-end profit shares. The regular wage paid to members (one-twelfth of 80 percent of their expected share in net income) became a production cost taking priority over other commitments.<sup>44</sup> Contrary to the rules in the other sectors, the law did not stipulate a required ratio for the allocation of net income into

<sup>40</sup> *Magyar Hírlap*, October 13, 1970.

<sup>41</sup> *Nepszabadsag*, June 20, 1967.

<sup>42</sup> *Ibid.*, July 6, 1967.

<sup>43</sup> *Ibid.*, June 20, 1967.

<sup>44</sup> *Ibid.*, October 25, 1966.

the various funds. Any allocation consistent with the "socialist" system of income distribution was acceptable. The reform increased also the family allowances payable to collective farm members.<sup>45</sup>

Undoubtedly due to the importance in satisfying the population's demand for food and contributing to foreign exchange earnings, the reform reaffirmed the regime's official stand that the maintenance and support of private plots is not a temporary but a long-range principle of agrarian policy.<sup>46</sup> While there was no change in the authorized size of household plots (.28-.57 hectares), there was a change in eligibility. Before the reform, only members with independent households were eligible; after the reform, every member who fulfilled the minimum work requirement on the common farm became eligible for a private plot. The purchase of small machines for private plot cultivation became somewhat easier but is still not satisfactory.

Before the reform, some 50 percent of the collective farm membership was idle during the winter months.<sup>47</sup> To increase farm incomes and effect a fuller labor utilization in an economy characterized by a severe labor shortage on the macro level, farms were encouraged to expand their ancillary activities. While ancillary activities were not illegal before the reform, the various ministerial enabling decrees interpreted the general law in a markedly restrictive fashion. The NEM ended years of debate concerning the proper scope of the collectives' activity. They were encouraged to broaden their activities (processing, marketing, provision of services), the only proviso being that the main activity had to be agricultural and that nonagricultural production should not affect farm output adversely. While the scope of the authorized activities was later restricted,<sup>48</sup> most farms still engage in ancillary activities.

Since it was reasonable to expect more intense competition in the economic arena after 1968, the NEM enabled collective farms to obtain interest group representation. To enable them to better defend their economic interests vis-a-vis monopolistic state enterprises, forty-nine federations of cooperatives were formed on a regional basis. Such federations can examine the economic problems common to collective farms, make recommendations, and deal with state agencies on behalf of individual collective farms. Moreover, the first National Congress of Cooperatives in 1967 elected the National Council of Agricultural Cooperatives, an organization with the function of a national agency for interest protection.<sup>49</sup>

Lastly, the reform enabled the collective farms to acquire the land they were using through purchasing it from members and non-members.<sup>50</sup> At the time of large scale collectivization (1959-61), peasants retained nominal titles to their land and were paid rent by the collectives (subject to the residual principle). Before the reform it was at least legally possible for members upon withdrawal or expulsion to get back the same amount and quality of land they took into the collective. According to the new law, members could continue to retain title to their land or sell it to the collective, whereas non-members had to either join or sell their land to the collective for a

<sup>45</sup> *Magyar Nemzet*, May 17, 1968.

<sup>46</sup> *Nepszabadsag*, September 29, 1967.

<sup>47</sup> *Ibid.*, June 16, 1967.

<sup>48</sup> Ancillary activities that were distant from agricultural production were prohibited. See *Magyar Hirlap*, December 3, 1971.

<sup>49</sup> *Nepszava*, October 25, 1967.

<sup>50</sup> *Nepszabadsag*, December 4, 1966.

"fair compensation." While changes in ownership, strictly speaking, are not expected to alter output or productivity under the circumstances, the new land law is still significant because it ended even the legal possibility of the former owners' ever withdrawing land for their private use.

### *B. Horizontal and Vertical Integration*

Following the completion of large scale collectivization, the prevailing trend in the early 1960's was the reorganization of farms by the consolidation of economically weak units into viable, larger operations. From the peak of approximately 4,500 in 1961, the number of collective farms declined, and the area cultivated per farm increased. During the late 1960's, many members of the leadership on the local level argued that the horizontal amalgamation of farms should continue due to the (assumed) economies "inherent" in large scale production (improved management, increased technical efficiency, etc.). Mergers thus continued with the result that, by 1975, the number of collective farms dropped to 1,599 and the average area cultivated by farm increased to 3,500 hectares. The merger movement among state farms has been more moderate; nevertheless, by 1975, their number dropped to 151, with an average area of 6,000 hectares.

More recently it has been recognized by the top leadership that once sufficient size has been attained, further enlargement of size is bound to yield diseconomies; as could be expected, various problems, primarily in the coordination of activities and in "cooperative democracy," have begun to appear.<sup>51</sup> Certain farms obviously have become excessively large, and further amalgamations generally have been discouraged.

Since the completion of the large scale collectivization drive in 1961, the most noteworthy and significant new feature in Hungarian agriculture, besides the NEM, has been the appearance and expansion of closed production systems (cps).<sup>52</sup> Also known as industrialized production systems, the essence of the cps lies in the application of a "package" of inputs in order to achieve a sequential set of programmed tasks—the final, overall objective being the attainment of maximum yields and revenues at a minimum cost. Production systems entail the use of the most up-to-date machinery, pesticides, seeds, and technology, and the optimal coordination of all environmental, biological, and institutional forces in the framework of scientific management.

Production systems have legal structures equivalent to those of enterprises and can thus enter into contracts, own equipment, etc. They consist of a system manager (usually a leading state farm) and several partner farms, the relations between the manager and the farms being defined in a contract. The system manager has to possess the intellectual, material, technical, and organizational conditions necessary for the establishment and continual further development of the system. It is responsible for the procurement, maintenance, and repair of machinery; procurement of the other inputs; the adaptation of its methodology to the conditions of the partner farms; and

<sup>51</sup> *Ibid.*, May 23, 1975 and October 7, 1975.

<sup>52</sup> See *Magyar Hirlap*, June 30 and July 12, 1973; *Nepszabadsag*, July 13, 1973; Laszlo Bethlendi, "Iparszere termelési rendszerek a mezogazdaságban," *Közgazdasági Szemle*, XXI (May, 1974), pp. 536-573; and Erno Csizmadia, "Új vonások a hetvenes évek magyar mezogazdaságában," *Közgazdasági Szemle*, XXI (June, 1974), pp. 641-655.

conducting the research and analysis needed for the further development of the system. The partner farms must adhere to the technological instructions, provide skilled personnel, and acquire the needed machinery and other materials. The system manager's remuneration is a prearranged share of the incremental profit (in the four systems dealing with corn production, it is 5-20 percent).<sup>53</sup>

The criteria for the establishment of cps are specified by the Ministry of Agriculture and Food. The main criterion is that the incremental profit earned must exceed the incremental cost before the obsolescence of the acquired machinery. Since the appropriate machinery usually has to be imported from the West because of the low quality standards of the CMEA countries, costs and profits are stated also in hard currency. Other criteria include the financial conditions of the partners and availability of appropriate labor resources.<sup>54</sup>

Such cps have been introduced in both livestock and crop production. Their success in livestock production generally has been mixed, with the notable exception of poultry and egg production by the Babolna Agricultural Combine. With the help of U.S. technology and a cooperative agreement with a West German firm, in 1970 Babolna began to breed hybrid poultry and sell poultry and eggs on Western markets.<sup>55</sup> Today broiler and egg production at Babolna enjoys internationally high standards and a favorable international reputation and export markets. The raising and fattening of hogs via cps, on the other hand, has met only a qualified success. In one case, hogs were being fattened in dark, windowless buildings with inadequate ventilation and consequently suffered oxygen deprivation.<sup>56</sup> Elsewhere, unreliable fodder supplies by the Grain Trust and incompetent managers made large-scale operations impractical.<sup>57</sup>

In crop production the introduction of production systems has been very successful. Introduced experimentally on six thousand hectares for corn production by Babolna in 1970, acreage under the various cps has expanded rapidly.

## EXPANSION OF CLOSED PRODUCTION SYSTEMS: CROP PRODUCTION

[1,000 hectares]

Crops	1970	1971	1972	1973	1974	1975
Corn.....	6	39	85	251	447	587
Sugar beets.....				16	30	52
Wheat.....					6	111
Sunflowers.....					27	52
Alfalfa.....					18	30
Rice.....					13	20
Turf.....					3	9
Potatoes.....					4	7
Soybeans.....					9	23
Tomatoes.....						1
Paprika.....						2
Peas.....						3
Seed-peas.....						10
Onions.....						2

Sources: Erno Csizmadia, Uj vonasok a hetvenes evek magyar mezogazdasagaban, "Kozgazdasagi Szemle," XXI (June 1974), pp. 641-655; "Figyelo," Sept. 3, 1975; "Magyar Mezogazdasag," No. 52, Dec. 25, 1974.

<sup>53</sup> Laszlo Vargha, "Horizontalis integracio a novenytermelesben," *Kozgazdasagi Szemle*, XII (January, 1975), pp. 149-152.

<sup>54</sup> *Magyar Hirtap*, January 29, 1974.

<sup>55</sup> *Vilaggazdasag*, March 21, 1971.

<sup>56</sup> *Figyelo*, December 12, 1973.

<sup>57</sup> *Ibid.*, February 6, 1974.

In 1975 eighteen systems were operating in crop production (of which four were in corn) over an area in excess of 900 thousand hectares. Further expansion, however, is to be more gradual; according to the Ministry of Agriculture and Food, permits for the establishment of new systems are to be more carefully scrutinized due to the lack of the necessary prerequisites (skilled workers, efficient management, and adequate financial reserves) on many farms.<sup>58</sup> Judging from the speeches and articles of high party and government officials, the likely future trend in production systems is in the direction of vertical integration in which farms, processing plants, and marketing organizations participate.

The introduction of the NEM enabled agricultural producers to perform vertically integrated functions through the expansion of ancillary activities. By the end of 1968, 94 percent of all agricultural producers' cooperatives operated or shared in the operation of subsidiary enterprises.<sup>59</sup> Those farms that possessed insufficient financial resources for the establishment of ancillary activities were able to do so through the formation of "common undertakings." By 1974 over 500 associations existed, over half of which were legal entities.<sup>60</sup> Nevertheless, intersectoral cooperation (i.e., between collective farms and state enterprises) has been hindered by several factors.

The clash of sectoral interests, such as between sugar beet growers and processors, has hindered the efforts toward greater integration. (The growers' interest calls for late harvests so as to attain a higher yield, whereas the processors' interest dictates staggered deliveries to the plant so as to relieve the pressure on storage facilities and reduce the length of the processing cycle.) Additionally, when the decree governing vertical intersectoral cooperation was promulgated,<sup>61</sup> it had the effect of discouraging joint enterprises due to the requirement that the joint enterprise form virtually all the enterprise funds normally formed by state enterprises. Finally, the high concentration of the Hungarian food processing industry also has tended to retard vertical integration between collective farms and state enterprises. All firms within a given sector are controlled by a trust; these trusts have been unwilling to loosen their control over the firms sufficiently to encourage greater flexibility.

A recent tendency has been the formation of agricultural combines and agro-industrial associations. An agricultural combine is formed by the merger of large, previously independent, vertically integrated units (such as state farms already performing many ancillary activities) under one management. An example is the Agricultural Combine at Babolna. An agro-industrial association is an organization in which independent state enterprises and collective farms participate. They retain their independence but establish close cooperation in the achievement of some task by synchronizing development plans, concentrating their investments and fixed assets on particular activities, etc. Due to the very recent promulgation of the decrees governing their formation and scope of activities,<sup>62</sup> at present there are only a few agro-

<sup>58</sup> *Magyar Hírlap*, June 5, 1974.

<sup>59</sup> *Nepszabadság*, January 26, 1969.

<sup>60</sup> Csizmadia, *op. cit.*, p. 648.

<sup>61</sup> *Magyar Kozlöny*, August 7, 1970.

<sup>62</sup> *Ibid.*, June 19, 1976.

industrial associations operating in the country. An example is the Szigetkoz Agro-Industrial Association in Győr county, created by the association of one state farm, ten collective farms, and six state food processing enterprises. It controls 48 thousand hectares of land, and its main purpose is to expand the country's cattle breeding and vegetable production.<sup>63</sup>

The formation of agro-industrial associations is consistent with the proposition that economies of scale do not obtain to the same extent in all operations that constitute farming or agriculture-related production. The selective enlargement of scale, therefore, may open up additional possibilities for increasing efficiency. The main future direction now appears to be the establishment of such regionally organized quasi-industrial production systems of several producing units, vertically encompassing the production, processing, and marketing functions.

### C. The 1976 Changes

In 1975 actual budgetary subsidies exceeded greatly the amounts planned for agriculture, the budget assuming the burden of world market price changes. At the same time, both the members' personal incomes and the investment expenditures of collectives exceeded the aggregate planned magnitudes, contributing to the existing disequilibria in the consumer goods and investment markets. Changes in the regulators were not designed to alter the regime's basic agrarian policy; one major purpose of the 1976 changes in general was to increase the portion of net income accruing to the budget—and, consequently, to reduce the portion left with the enterprises. For the agricultural sector the planned yearly reduction amounts to the net transfer of an additional 2 billion forints to the treasury.<sup>64</sup> The major methods used to effect the income transfer are to be found in the price changes affecting agriculture and in various tax policies.<sup>65</sup>

In addition to income transfers, the planners wanted also to communicate to the producers the altered cost ratios that came into being on the world market during the last few years. In agriculture, pursuance of this policy meant that concurrently with raising procurement prices by various increments reflecting planned output preferences, input prices were also raised, prompting producers to substitute for costlier inputs whenever possible. During the last few years, increases in industrial producer prices were not passed on to agriculture but were absorbed by budgetary subsidies. As of January 1, 1976, prices of fuels, machinery, fertilizer, insecticides, herbicides, and protein fodder were raised.<sup>66</sup>

Changes in tax policy affected primarily the collective farms. The existing land tax remained, in essence, unchanged, except for a slight alteration in rates in favor of farms possessing lower quality land. Social insurance contributions were raised, as was the progressive rate of the tax on increments to member incomes. There was also a change in the tax rate applicable to ancillary production activities.

<sup>63</sup> *Kisalföld*, October 28, 1976.

<sup>64</sup> *Figyelő*, October 20, 1976.

<sup>65</sup> See *Penzugyi Kozlony*, July 30, 1975. For a detailed discussion of the changes in the economic regulators pertaining to agriculture, see Decree 1030/1975 by The Council of Ministers, published in *Magyar Kozlony*, November 15, 1975.

<sup>66</sup> For the specific increases in input and procurement prices, see *Penzugyi Kozlony*, September 4, 1975.

Rates were reduced on activities closely related to agricultural production (e.g., processing) and raised on activities of an unrelated nature. The general income tax of cooperatives (based upon the total wage bill) was replaced by a progressive tax based upon per capita gross income (comprised of total wages plus profit).

The subsidy system was retained virtually intact, except for small changes in rates; e.g., for tractor purchases the rate was increased from 10 to 20 percent; for other machines, reduced from 47 to 40 percent. The maximum subsidy remains at 70 percent.

Assuming no significant offsetting policies, the changes in the regulators are bound to reduce the net income of the agricultural sector. It is not clear, however, whether they will elicit the desired changes in the structure of production. So far the input and procurement price changes have not altered the relative profitability of the crop and livestock sectors. Crop production, on the average, still yields a 26–28 percent profit, whereas the expected profit in livestock production is 0–0.5 percent. On the average, ancillary production results in a profit of 11–13 percent.<sup>67</sup> It is not surprising, therefore, that the planned expansion of livestock production by enterprises is at odds with the annual plan targets. Under these conditions, unless significant production incentives are introduced, meat supply problems will tend to be perpetuated. There is a wide difference also in the profitability of vegetable production and grain production. The new tax on gross income provides a further disincentive for the production of labor intensive products (e.g., vegetables) because labor costs comprise the dominant portion of the gross income of cooperatives. It remains to be seen whether the 1977 procurement price increases for vegetables will provide an adequate inducement for the expansion of vegetable production to eliminate the potential shortages.

### VIII. CONCLUSION

During the past decade significant efforts have been made to increase the output and efficiency of Hungarian agriculture. Provision of greater economic incentives within the framework of the NEM, increased mechanization, the more intensive application of artificial fertilizers, as well as the spread of closed production systems in crop production undoubtedly have contributed greatly to the recorded output gains. On the debit side, shortages of spare parts, high-quality machinery, manpower, protein fodder, and storage facilities, together with the pursuance of occasionally inappropriate or conflicting economic policies, have detracted from the otherwise noteworthy accomplishments. The tempo of further growth, therefore, is likely to be profoundly influenced by, inter alia, the type of direct economic incentives offered to producers in the form of procurement prices, subsidies, and input availabilities, the degree of exploitation of the opportunities existing in the foreign sector, and the nature of policy coordination and implementation by central and local administrative units.

<sup>67</sup> *Figyelo*, October 20, 1976.

## APPENDIX TABLES

TABLE 1.—SHARE OF AGRICULTURE<sup>1</sup> IN EMPLOYMENT, FIXED ASSETS, AND INVESTMENT, AND ITS CONTRIBUTION TO NATIONAL INCOME

[Percentages]

Years	Employment	Fixed assets	State and cooperative investment	Contribution to national income
1965.....	28.6	13.7	17.0	24.3
1970.....	26.4	14.4	23.0	18.0
1971.....	25.7	14.5	21.8	18.7
1972.....	25.0	14.8	19.8	18.0
1973.....	24.4	15.1	18.9	17.5
1974.....	23.3	16.6	18.3	16.8
1975.....	22.7	16.7	17.7	15.4

<sup>1</sup> Including forestry and water management.

Sources: Computed from "Statistikai Evkonyv," 1974 and "Magyar Statistikai Zsebkönyv," 1970-76.

TABLE 2.—NUMBER OF AGRICULTURAL PRODUCERS BY TYPE

Years	State farms	Agricultural producers' cooperatives	Cooperative associations	Specialized agricultural cooperatives	Cooperative fisheries	In thousands	
						Household plots	Private farms
1965.....	214	3,278	77	427	22	941	120
1970.....	180	2,441	301	243	22	892	110
1971.....	180	2,373	317	235	21	NA	120
1972.....	175	2,315	314	226	21	NA	120
1973.....	168	2,209	300	213	21	829	120
1974.....	152	1,918	300	183	21	815	NA
1975.....	151	1,599	266	144	20	800	NA

Sources: "Statistikai Evkonyv," 1974, p. 239; "Magyar Statistikai Zsebkönyv" for 1970-76.

TABLE 3.—DISTRIBUTION OF LAND AREA BY OWNERSHIP AND CONTROL

[In thousand hectares]

Years	Total State	State farms	Cooperative		Private Farms	Total
			Common	Household plots		
1965.....	2,945	1,019	4,753	767	518	9,303
1970.....	2,830	999	4,865	738	553	9,303
1971.....	2,842	999	4,872	723	553	9,303
1972.....	2,837	997	4,888	712	554	9,303
1973.....	2,838	993	4,907	699	553	9,303
1974.....	2,836	991	4,950	669	550	9,303
1975.....	2,823	984	5,069	589	543	9,303

Source: "Magyar Statistikai Zsebkönyv" for 1970-76.

TABLE 4.—DISTRIBUTION OF TOTAL LAND AREA BY USES

[In thousand hectares]

Years	Agricultural area						Other cultivated area <sup>1</sup>	Uncultivated area	Total land area
	Arable land	Gardens	Orchards	Vineyards	Meadows	Pastures			
1965.....	5,084	151	168	247	419	885	1,450	899	9,303
1970.....	5,046	146	172	230	405	876	1,503	925	9,303
1971.....	5,033	151	172	222	403	874	1,513	935	9,303
1972.....	5,026	151	170	219	401	880	1,516	940	9,303
1973.....	5,025	151	165	213	397	884	1,523	945	9,303
1974.....	4,978	152	163	210	393	887	1,569	951	9,303
1975.....	4,976	152	161	206	386	889	1,579	954	9,303

<sup>1</sup> Includes forests and reeds.

Sources: "Statiztikai Evkonyv" for 1970 and 1974; "Magyar Statiztikai" Zsebkonyv for 1970-76.

TABLE 5.—PLANNED AND ACTUAL AVERAGE ANNUAL GROWTH RATES OF NATIONAL INCOME AND AGRICULTURAL PRODUCTION

	1966-70		1971-75		1976-80
	Plan	Actual	Plan	Actual	Plan
National income.....	3.5-3.9	6.8	5.0-5.6	6.2	5.5
Gross agricultural output <sup>1</sup> .....	2.6-3.0	2.8	2.8-3.0	3.4	3.2-3.4
Crop production <sup>1</sup> .....	(*)	1.9	2.1-2.8	3.0	3.6-3.8
Livestock production <sup>1</sup> .....	(*)	3.9	3.0-3.2	4.0	3.0
Food processing industry <sup>1</sup> .....	(*)	4.6	N.A.	4.5	5.2

<sup>1</sup> Base period is the previous 5-year period.

\* Not available.

Sources: Nepszabadsag, Dec. 21, 1975 (supplement), and Mar. 28, 1976; Figyelo, June 16, 1976; Orszaggyules, A harmadik oteves terv (Budapest: Kossuth Konyvkiado, 1966), pp. 66-80; Sandor Kovacs and Jenő Vancsa, "Mezőgazdasági termelés—élelmiszeripari feldolgozás," Tarsadalmi Szemle, XXXI (April 1976), p. 64.

Table 6.—THE STRUCTURE OF AGRICULTURAL OUTPUT BY SECTOR OF ORIGIN, ON THE BASIS OF THE VALUE OF GROSS OUTPUT AT 1968 PRICES

[In percent]

Years	State	Cooperatives			Private farms	Total
		Common	Household	Other		
1965.....	15.0	43.8	25.0	3.9	12.3	100.0
1970.....	15.7	43.8	23.7	4.0	12.8	100.0
1971.....	15.3	45.5	22.5	3.9	12.8	100.0
1972.....	15.3	46.6	21.6	3.9	12.6	100.0
1973.....	15.1	47.2	20.8	3.8	13.1	100.0
1974.....	15.2	48.0	20.3	3.6	12.9	100.0

Source: "Statiztikai Evkonyv," 1974, p. 244.

TABLE 7.—PRODUCTION OF SELECTED CROPS

[In thousands of tons]

Years	Wheat	Rye	Barley	Corn	Sugar beets	Potatoes	Fruits	Vegetables
Average of 1966-70.....	2,996	219	843	3,992	3,174	1,659	1,218	1,730
1970.....	2,718	155	552	4,013	2,174	1,430	1,430	1,517
1971.....	3,915	180	782	4,674	2,023	1,488	1,231	1,682
1972.....	4,089	171	802	5,537	2,958	1,311	1,369	1,800
1973.....	4,498	175	871	5,911	2,752	1,163	1,466	1,845
1974.....	4,968	175	894	6,195	3,707	1,364	1,472	1,962
1975.....	4,005	147	699	7,088	4,089	1,268	N.A.	1,630

Sources: "Statiztikai Evkonyv," 1974, pp. 246-47; "Magyar Statiztikai Zsebkonyv" for 1970-76; "Figyelo," June 23 1976.

TABLE 8.—AVERAGE YIELDS IN QUINTALS PER HECTARE OF MAJOR CROPS

Years	Wheat	Rye	Barley	Corn	Sugar beets	Potatoes
Average of 1966-70.....	24.3	11.6	21.2	32.3	325.2	104.5
1970.....	21.3	10.4	19.5	33.8	287.3	104.1
1971.....	30.7	14.2	26.2	35.4	277.7	115.7
1972.....	31.0	14.3	27.6	39.8	370.1	110.0
1973.....	34.8	16.3	30.4	40.5	297.9	109.4
1974.....	37.5	16.6	33.1	42.5	377.0	125.9
1975.....	32.0	14.0	27.2	50.2	322.2	126.4

Source: "Magyar Statisztikai Zsebkönyv" for 1970-76.

TABLE 9.—PRODUCTION OF ANIMALS FOR SLAUGHTER, MILK, AND EGGS, AND CATCH OF FISH

Years	Cattle (tons)	Hogs (tons)	Milk (million liters)	Sheep (tons)	Poultry (tons)	Eggs (millions)	Fish catch <sup>1</sup> (tons)
Average of 1966-70.....	307,000	692,900	1,845	35,000	238,000	2,787	* 18,000
1971.....	324,000	886,000	1,700	39,000	296,000	3,300	18,000
1972.....	298,000	996,000	1,756	32,000	287,000	3,217	22,000
1973.....	329,000	867,000	1,907	36,000	308,000	3,350	22,000
1974.....	287,000	1,018,000	1,859	34,000	339,000	3,628	22,000
1975.....	378,000	1,094,000	1,920	34,000	350,000	4,000	23,000

<sup>1</sup> Fish for sale.

<sup>2</sup> Data for 1970.

Sources: "Statisztikai Evkonyv," 1974, p. 247. "Magyar Statisztikai Zsebkönyv," 1976, p. 101.

TABLE 10.—YIELDS OF MILK AND EGGS

Years	Milk per cow (liters)	Eggs per hen
1965.....	2,150	92
1970.....	2,420	113
1971.....	2,288	112
1972.....	2,363	141
1973.....	2,470	127
1974.....	2,478	140
1975.....	2,341	145

Sources: "Magyar Statisztikai Zsebkönyv" for 1967, p. 83, and for 1976, p. 101.

TABLE 11.—AGRICULTURAL MECHANIZATION AND IRRIGATION

Year	Grain combines (thousands)	Trucks (thousands)	Tractors (thousands)	Tractors in 15-hp tractor units (thousands)	Mechanical hauling power as a percent of total hauling power	Irrigation capacity <sup>1</sup> (thousands of hectares)	Irrigated area <sup>2</sup> (thousands of hectares)
1965.....	9	7	64	92	74.7	* 411	* 205
1970.....	12	15	69	113	85.4	458	109
1971.....	13	18	68	117	87.2	465	205
1972.....	13	21	67	119	88.8	485	267
1973.....	14	19	65	120	90.0	482	311
1974.....	15	20	64	122	(*)	482	308
1975.....	14	21	62	(*)	98.6	487	155

<sup>1</sup> Data for Socialist sector only.

\* 1967.

\* Not available.

Sources: Magyar Statisztikai Zsebkönyv, volumes for 1970-76; Statisztikai Evkonyv, 1974, p. 272.

TABLE 12.—USE OF COMMERCIAL FERTILIZERS

Years	Use in thousand tons				Kilograms per hectare of agricultural land
	Nitrogen	Phosphate	Potash	Total	
Average of 1966-70.....	293	170	150	613	109
1971.....	394	251	309	954	171
1972.....	422	266	329	1,017	183
1973.....	493	322	387	1,202	216
1974.....	551	362	423	1,336	243
1975.....	580	430	476	1,486	270

Sources: Statiztikai Evkonyv, 1974, p. 253; Magyar Statiztikai Zsebkonyv, 1976, p. 99.

TABLE 13.—PER CAPITA CONSUMPTION OF SELECTED FOODS

[In kilograms, except eggs]

	1965	1970	1975
Meat and meat products <sup>1</sup> .....	40.6	43.4	-----
Poultry.....	11.0	14.2	-----
Total meat.....	51.6	57.6	70-71
Fish.....	1.6	2.3	-----
Eggs, number.....	188	247	270
Milk and dairy products <sup>2</sup> .....	97.1	109.6	125
Butter.....	1.6	2.1	1.8
Fats and oils, total.....	23.1	27.7	28.5
Edible oils, margarine.....	2.0	2.8	4.8
Flour.....	135.5	124.1	121-122
Rice.....	3.7	4.1	-----
Potatoes.....	84.3	75.1	65
Vegetables.....	76.7	83.2	<sup>3</sup> 88
Fruits.....	52.8	72.8	<sup>3</sup> 78
Sugar.....	30.1	33.5	39-40

<sup>1</sup> Red meats, including edible offals.

<sup>2</sup> Excluding butter.

<sup>3</sup> Data for 1974.

Sources: "Statiztikai Evkonyv," 1974, p. 377 "Magyar Statiztikai Zsebkonyv," 1976, p. 148.

TABLE 14.—NET EXPORTS OR IMPORTS (—) OF SELECTED AGRICULTURAL PRODUCTS

[In thousand tons; except eggs]

	1965	1970	1971	1972	1973	1974	1975
Wheat.....	-17	433	88	368	945	973	921
Feed grains <sup>1</sup> .....	-478	-1	-646	-558	-178	-374	-173
Corn.....	22	208	-113	-65	712	842	344
Slaughter cattle and calves.....	72	113	111	112	120	90	NA
Slaughter pigs.....	29	3	50	49	10	22	NA
Eggs (millions).....	344	390	452	266	240	341	420
Sugar.....	107	-13	-180	-132	-158	-196	-183
Beef and veal.....	2	14	14	10	13	16	NA
Pork.....	5	-32	32	36	-5	39	NA
Dressed poultry.....	35	57	73	67	69	89	104
Canned fruits.....	46	82	92	105	103	101	98
Canned vegetables.....	124	175	193	216	214	226	218
Fresh fruits.....	141	225	257	339	368	355	336
Fresh vegetables.....	114	62	78	111	83	61	63

<sup>1</sup> Excluding corn.

Sources: "Statiztikai Evkonyv," 1974, pp. 310-333; "Magyar Statiztikai Zsebkonyv," 1976, pp. 117-121.

# EASTERN EUROPE: GROWING ENERGY PROBLEMS

BY JOHN R. HABERSTROH

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## I. SUMMARY

The East European countries were informed by the USSR in the early 1970s that oil deliveries in 1976-80 would be held to the 1975 level. This presented the East Europeans with a dilemma as they rely heavily on increased Soviet oil deliveries to meet their growing energy needs. The East European regimes first responded by planning massive imports of Middle Eastern oil but the explosion in world oil prices subsequently forced them to gear down these plans. In order to fill part of this growing energy gap, the East Europeans then launched programs to accelerate development of domestic energy resources and

improve efficiency in fuel use. The burden was further eased when the U.S.S.R. relaxed its limits on oil deliveries somewhat to accommodate those East Europeans investing in Soviet resources development and those facing particularly serious economic difficulties.

Despite these adjustments, energy plans in 1976-80 are very taut with strains already appearing in 1976. If energy supplies fall short, the East Europeans probably will have to reduce economic growth goals. It is unlikely, however, that leaderships will cut back planned improvements in consumer living standards very much. The U.S.S.R. is unlikely to provide much more oil in 1976-80 unless political stability in Eastern Europe is at stake.

## II. INTRODUCTION

Since the early 1960s, Eastern Europe,<sup>1</sup> in an effort to rationalize production and speed economic growth, has been shifting from almost exclusive reliance on domestic coal for its energy supply to a more balanced pattern using increasing amounts of oil and natural gas. Because of the paucity of these energy resources in East European countries except Romania, however, the bulk of their oil and natural gas has been imported, mainly from the U.S.S.R. Soviet oil has been especially critical in the rapid expansion of East European chemical and petrochemical industries, in the mechanization of agriculture, and in the modernization of the transport and metallurgical sectors.

## III. CURRENT USE PATTERN

### A. Coal

Eastern Europe entered the 1970s as the only major industrialized area that still relied heavily on coal. In 1970, for example, coal supplied about 70 percent of primary energy consumption in Eastern Europe (see Table 1). The two largest economies—Poland and East Germany—depended on coal for over 80 percent of their energy supplies. Reserves of coal in Eastern Europe are quite large and represent about 150 years supply at current production rates (see Table 2). Except for Polish coal, however, most of these reserves are brown coal and lignite.

TABLE 1.—EASTERN EUROPE: COMPOSITION OF PRIMARY ENERGY SUPPLY, 1970

	[In percent]			
	Coal	Oil	Natural gas	Hydroelectric and nuclear power <sup>1</sup>
Total.....	69	17	12	2
Bulgaria.....	41	53	2	4
Czechoslovakia.....	77	17	3	3
East Germany.....	85	12	2	1
Hungary.....	50	31	15	4
Poland.....	84	10	6	Negligible
Romania.....	20	26	54	Negligible

<sup>1</sup>Includes electricity imports.

<sup>1</sup> Bulgaria, Czechoslovakia, East Germany, Hungary, Poland, and Romania.

TABLE 2.—EASTERN EUROPE: PROVED RESERVES OF CRUDE OIL, NATURAL GAS, AND COAL, YEAREND 1975

	Crude oil (million metric tons)	Natural gas <sup>1</sup> (billion cubic meters)	Coal <sup>2</sup> (million metric tons)
Eastern Europe.....	196	620	94, 550
Bulgaria.....	15	25	* 4, 390
Czechoslovakia.....	2	15	* 13, 770
East Germany.....	1	100	* 30, 200
Hungary.....	19	100	* 3, 350
Poland.....	5	130	* 38, 870
Romania.....	164	250	* 3, 970

<sup>1</sup> Proved and probable reserves.

<sup>2</sup> Includes brown coal and lignite.

<sup>3</sup> Data are for 1972.

<sup>4</sup> Data are for 1966.

<sup>5</sup> Data are for 1971.

<sup>6</sup> Data are for 1967.

Source: "Handbook of Economic Statistics", 1976, Central Intelligence Agency, p. 78.

In the 1971-75 plan period, as the East Europeans moved to reduce the growth of coal usage, production grew only 1.6 percent annually. Most of the increase was attributable to a rise in hard coal output in Poland. Production fell in Bulgaria, East Germany, and Hungary and rose only slightly in Czechoslovakia as these countries deliberately downplayed the production of coal that was diminishing in quality and accessibility. A number of countries even closed less efficient mines. Because Poland exports almost one-quarter of its hard coal, consumption in Eastern Europe grew even slower than production, increasing by less than 1 percent annually.

Overall energy consumption grew by 4 percent annually during the same period (see Table 3).

TABLE 3.—EASTERN EUROPE: PRIMARY SOURCES OF ENERGY: 1965, 1970, 1975, AND 1980

[Million tons standard coal equivalent]<sup>1</sup>

	Coal	Oil	Natural gas	Hydroelectric and nuclear power <sup>2</sup>	Total
1965:					
Production.....	275.0	21.8	27.1	4.2	328.1
Net imports.....	-2.5	+21.0	+6	+6	+19.7
Consumption.....	272.5	42.8	27.7	4.8	347.8
1970:					
Production.....	305.7	23.4	46.8	4.5	380.4
Net imports.....	-7.2	+51.7	+3.1	+1.7	+49.3
Consumption.....	298.5	75.1	49.9	6.2	429.7
1975:					
Production.....	332.7	25.0	66.9	9.1	433.7
Net imports.....	-19.8	+94.5	+13.4	+3.4	+91.5
Consumption.....	312.9	119.5	80.3	12.5	525.2
1980: <sup>3</sup>					
Production.....	385.3	29.1	70.3	14.0	497.3
Net imports.....	-18.6	+139.5	36.0	5.4	163.7
Consumption.....	366.7	168.6	106.3	19.4	661.0

<sup>1</sup> Standard coal equivalent has a heat value of 7,000 kilocalories per kilogram.

<sup>2</sup> Including electricity imports.

<sup>3</sup> Estimated plans.

## B. Crude Oil

Although the East Europeans succeeded in reducing coal's share of energy consumption during 1971-75, limited reserves prevented them from offsetting that decline with domestically produced crude oil and natural gas.<sup>2</sup> Crude oil reserves amount to only 196 million tons (1.4 billion barrels),<sup>3</sup> less than 0.3 percent of world oil reserves and only about twice the level of East European oil consumption in 1975<sup>4</sup> (see Table 4). Romania has over 80 percent of these reserves.

TABLE 4.—EASTERN EUROPE: PRODUCTION AND CONSUMPTION OF OIL, 1965, 1970, AND 1975<sup>1</sup>

[In millions of tons]

	1965			1970			1975		
	Production	Consumption	Production as a percent of consumption	Production	Consumption	Production as a percent of consumption	Production	Consumption	Production as a percent of consumption
Total.....	15.1	30.0	55	16.3	53.9	30	17.4	85.0	21
Bulgaria.....	.2	3.9	6	.3	8.9	4	.1	14.2	1
Czechoslovakia.....	.2	6.1	3	.2	10.4	2	.1	16.5	1
East Germany.....	(*)	4.6	-----	1	9.5	1	.1	16.5	-----
Hungary.....	1.8	4.0	45	1.94	6.4	30	2.01	10.2	20
Poland.....	.3	4.8	7	.4	8.6	5	.5	14.0	4
Romania.....	12.6	6.8	186	13.4	10.3	130	14.6	13.5	108

<sup>1</sup> Components may not add to totals because of rounding.<sup>2</sup> Negligible.

Sources: Statisticheski Yezhegodnik Stran-chlenov Soveta Economicheskoy Vzymopomoshchi, 1975, and East European Statistical Yearbooks.

Despite efforts to boost production sharply, East European crude oil production grew at an average annual rate of only 1.4 percent during 1971-75. Output totaled only about 17.5 million tons in 1975 and accounted for about 20 percent of consumption. About 84 percent of the area's crude oil output came from Romania. The more industrialized East European countries (East Germany, Czechoslovakia, and Poland) produce negligible amounts of crude oil. Despite strenuous Romanian efforts to boost production, the growth of its crude oil output has slowed since the mid-1960's, increasing only 1.7 percent annually during 1971-75. Output totaled 14.6 million tons in 1975. Hungary, the only other significant producer, has experienced even more difficulty in raising production; output increased only 0.7 percent annually during 1971-75.

## C. Natural Gas

Eastern Europe was more successful in raising natural gas production in 1971-75, but gas reserves are small. Proved and probable reserves totaled 620 billion cubic meters in 1975, about 10 times 1975 consumption.<sup>5</sup> Romania accounts for about 40 percent of Eastern Europe's gas reserves and more than 60 percent of its gas production (see Table 5 for East European gas production and consumption).

<sup>3</sup> The same is true for hydroelectric power and nuclear energy. Most East European countries have limited hydroelectric power potential and nuclear energy will not become a significant factor until the 1980's.<sup>4</sup> All references to tons are metric tons.<sup>5</sup> Reserves amount to about an 11-year supply at 1975 extraction rates.<sup>6</sup> Reserves amount to about a 12-year supply at 1975 extraction rates.

TABLE 5.—EASTERN EUROPE: PRODUCTION AND CONSUMPTION OF NATURAL GAS, 1965, 1970, AND 1975

(In billions of cubic meters)

	1965			1970			1975		
	Production	Consumption	Production as a percent of consumption	Production	Consumption	Production as a percent of consumption	Production	Consumption	Production as a percent of consumption
Total.....	20.89	21.29	98	36.19	38.58	94	52.99	64.19	83.
Bulgaria.....	.07	.07	100	.47	.47	100	.11	1.29	9
Czechoslovakia.....	.75	.75	100	.81	2.08	39	.80	4.49	18
East Germany.....	.13	.15	87	1.23	1.35	91	8.00	11.20	71
Hungary.....	1.11	1.31	85	3.47	3.67	95	5.12	5.93	86
Poland.....	1.38	1.76	78	5.18	6.18	84	5.96	8.47	70
Romania.....	17.45	17.25	101	25.03	24.83	101	33.00	32.81	101

Although gas output in Eastern Europe grew by 8 percent annually during 1971-75, it still was below the 12 percent recorded during the previous five-years. Output of 64 billion cubic meters in 1975, however, met 83 percent of the area's consumption needs. Growth in 1971-75 was spurred by new finds, especially in East Germany, Hungary and Poland.

#### D. Imports

The slow growth of coal production and the generally small amount of oil and gas reserves has forced the East Europeans to rely heavily on imports to meet most of their energy needs. During 1971-75, such imports grew 12 percent annually, nearly four times the growth rate of domestic energy production. By 1975, imports of energy accounted for about 17 percent of consumption, compared to slightly over 11 percent in 1970. Excluding Poland, with its coal, and Romania, with its oil and gas, imports of energy for the other four countries rose from 36 percent of consumption in 1970 to 56 percent in 1975.

The U.S.S.R. has supplied the overwhelming share of Eastern Europe's crude oil imports and virtually all of its natural gas and electricity imports. Excluding Poland and Romania, the energy dependence of the other four East European countries on the U.S.S.R. is extremely heavy. Between 1971-75, import increases from the Soviet Union comprised over nine-tenths of the growth in energy consumption of Bulgaria, East Germany, and Hungary and over one-half of Czechoslovakia's. Soviet oil deliveries total 271 million tons; by 1975, deliveries to the five importing countries reached 63 million tons (1.3 million barrels/day) and accounted for 86 percent of their total crude oil supply. Meanwhile, Soviet natural gas deliveries increased fourfold to 11.3 billion cubic meters and electricity deliveries doubled to 10 billion kilowatt hours. By 1975, the U.S.S.R. accounted for 13 percent and 25 percent, respectively of East European gas and primary electric power consumption.

Eastern Europe was in large part insulated from the dramatic explosion of world energy prices in 1973-74. Trading prices within the CEMA were scheduled to remain fixed until 1976 and only a small share of its total oil imports came from the Middle East. The Soviet crude oil price to Eastern Europe in 1974, for example, was under \$3.00 a barrel or about one-quarter of the world price. In January 1975, however, the Soviet Union more than doubled the prices of its oil,

natural gas, and coal to Eastern Europe (see Table 6). The cost of these imports jumped from 1.6 billion rubles (\$2.1 billion) in 1974 to 3.2 billion rubles (\$4.5 billion) in 1975.<sup>6</sup>

In addition to boosting oil prices, the U.S.S.R. also instituted a system of annual price adjustments based on a moving 5-year average of world prices. Consequently, the price of oil to Eastern Europe rose 8 percent in 1976 and 22.5 percent in 1977 to about \$9.10 a barrel.<sup>7</sup> These price changes resulted in a deterioration in East European terms of trade with the U.S.S.R. and forced them to divert goods from domestic and hard currency markets to the Soviet Union to pay for the higher priced Soviet goods.<sup>8</sup>

Perhaps of greater concern to the East Europeans is the Soviet attempt to limit oil exports to them in 1976-80 to 1975 levels. Because the increase in Soviet oil deliveries in 1971-75 accounted for 30 percent of the increase in all East European energy consumption, a leveling off of Soviet oil supplies would harm East European economic growth. The Soviets have since eased the limitations because of Eastern European willingness to undertake new investments in the U.S.S.R. and severe economic difficulties in some of them. Despite these adjustments, Soviet oil deliveries in 1980 still will be only an estimated 23 percent greater than in 1975; during 1971-74, deliveries rose 57 percent. Tables 7 and 8 list actual Soviet deliveries in 1971-75 and estimates for 1976-80.

Poland is the largest beneficiary of this Soviet largesse. According to the 1976-80 protocol, Poland was to receive only 50 million tons of crude oil and 6.5 million tons of oil products. The U.S.S.R. exported 58 million tons during 1971-75. Soviet concern about Polish economic problems, as well as Polish construction of an oil pipeline in the U.S.S.R., prompted Moscow to raise the delivery target to 75 million tons.<sup>9</sup> Because of payback from investment in Soviet projects in 1966-67, East Germany and Czechoslovakia will both receive about 20 million tons of oil by 1980 (compared to 15-16 million tons in 1975). Hungary also has been promised additional oil beyond the 1976-80 protocol in return for Hungarian oil equipment deliveries to the U.S.S.R.

Soviet efforts to reduce the growth of exports is attributable to production constraints in the U.S.S.R. In 1976-80, Soviet production is scheduled to increase 4.8 percent annually, compared with 6.8 percent in 1971-75. Even the present 1980 Soviet target of 640 million tons is expected to be underfulfilled by at least as much as 8 percent.<sup>10</sup>

East European imports of Soviet oil had been growing faster than Soviet oil production for some time. In 1965, such imports accounted for 9 percent of Soviet production; in 1975, they represented 13 percent. In restricting oil exports, the U.S.S.R. was attempting to keep Eastern Europe's share of Soviet production from rising further. If the

<sup>6</sup> Rubles are converted at the 1974 rate of \$1.32 per ruble and the 1975 rate of \$1.39 per ruble. Further numbers in the text will be denoted in dollars, converted from rubles at official rates of exchange.

<sup>7</sup> CEMA foreign trade prices in 1975 were based on a 3-year world average, i.e., 1972-74. The 5-year price bases began in 1976 with prices based on 1971-75 world levels; 1977 CEMA prices are based on 1972-76 world price levels and so on. In the case of oil, the 1977 price still is substantially less than the direct sale price of \$12.09 charged for Saudi Arabian benchmark crude in March 1977.

<sup>8</sup> East European prices to the U.S.S.R. also have been rising but to a lesser degree. It is estimated that Eastern Europe experienced a 10-percent terms of trade decline with the U.S.S.R. in 1975 alone with even higher declines for Hungary, East Germany, and Czechoslovakia.

<sup>9</sup> "Polish News Bulletin of the American and British Embassies," Warsaw, January 6, 1977, p. 6.

<sup>10</sup> Emily E. Jack, J. Richard Lee and Harold H. Lent, "Outlook for Soviet Energy," Soviet Economy in a New Perspective, Joint Economic Committee Compendium, 1976, p. 462.

TABLE 6.—EASTERN EUROPE: F.O.B. UNIT VALUES OF SOVIET ENERGY PRODUCTS, 1974-75

	Hard coal <sup>1</sup>			Anthracite <sup>1</sup>			Coke <sup>1</sup>			Oil and products <sup>1</sup>			Natural gas <sup>2</sup>			Electric power <sup>3</sup>		
	1974	1975	Index	1974	1975	Index	1974	1975	Index	1974	1975	Index	1974	1975	Index	1974	1975	Index
Bulgaria.....	12.48	25.94	208	12.73	24.31	191	22.81	42.35	186	15.15	34.24	226	15.16	29.39	194	11.83	15.50	131
Czechoslovakia.....	12.54	27.77	221	15.12	29.93	198	22.95	45.01	196	16.32	30.85	189	15.28	25.47	167	9.50	12.97	137
East Germany.....	14.05	30.84	220	19.68	37.75	192	24.37	47.91	197	18.77	28.18	150	15.10	15.11	100			
Hungary.....	14.92	31.87	214							20.93	40.98	196		29.8		10.6	14.87	140
Poland.....										20.56	39.50	192	13.86	28.00	202	10.85	16.03	148
Romania.....	14.18	34.48	243				24.80	44.41	179							8.69	6.97	80

<sup>1</sup> Rubles per ton.

<sup>2</sup> Rubles per thousand cubic meters.

<sup>3</sup> Rubles per thousand kilowatt hours.

<sup>4</sup> The relatively lower unit prices paid in 1975 by East Germany for imports of oil and natural gas and Czechoslovakia for imports of oil probably result from agreements which had fixed prices for com-

modity paybacks.

<sup>5</sup> Hard coal and anthracite.

Source: "Vneshnyaya Torgovlya SSSR," 1975.

100

TABLE 7.—EASTERN EUROPE: SOVIET OIL DELIVERIES, 1971-75<sup>1</sup>

[In thousands of tons]

	1971	1972	1973	1974	1975	Total
Bulgaria.....	7,959	7,949	9,322	10,855	11,553	47,638
Czechoslovakia.....	11,810	12,866	14,430	14,836	15,965	69,817
GDR.....	10,378	11,480	12,985	14,424	14,952	64,219
Hungary.....	5,055	5,529	6,294	6,729	7,535	31,142
Poland.....	9,550	11,065	12,336	11,855	13,271	58,077
Total.....	44,752	48,889	55,277	58,699	63,276	270,893
Percent increase over previous year.....	(8.5)	(9.2)	(13.1)	(6.2)	(7.8)	.....

<sup>1</sup> Vneshnyaya Torgovlya SSSR, 1971-75.

TABLE 8.—EASTERN EUROPE: PLANNED SOVIET OIL DELIVERIES, 1976-80<sup>1,2</sup>

[In thousands of tons]

	1976	1977	1978	1979	1980	Total
Bulgaria.....	11,900	12,000	12,000	12,000	12,100	60,000
Czechoslovakia.....	17,200	17,200	17,700	18,700	19,900	91,000
GDR.....	16,800	17,000	17,500	18,500	19,500	89,000
Hungary.....	8,400	8,700	9,200	9,600	10,200	46,000
Poland.....	14,100	14,100	15,000	15,000	16,300	75,000
Total.....	68,000	69,000	71,000	74,000	78,000	360,000

<sup>1</sup> Estimated from various sources including a number of interpolations based on actual 1971-75 deliveries and announcements of 1976-80 projected deliveries.

<sup>2</sup> Components may not add to totals because of rounding.

U.S.S.R. achieves its 1980 target, the East European share will remain at about the 13 percent level of 1975; any production shortfall would raise the share correspondingly.<sup>11</sup>

The Soviet Union has for some time pressed the East Europeans to seek additional oil supplies elsewhere to make up for the slower growth in Soviet deliveries. The U.S.S.R. also has advised the East Europeans to increase their participation in Soviet oil and raw material development projects if they expected increased Soviet deliveries. In addition, Soviet officials have told the East Europeans to develop their own resources more fully, to increase the use of coal (especially for electric power plants), and to accelerate the use of modern energy-saving technological processes.

#### IV. SEARCH FOR INCREASED SUPPLIES

##### *A. Turn to the Middle East*

After being told early in the 1970s of the Soviet intent to limit 1976-80 oil exports, the East Europeans turned to the Middle East for relatively cheap oil to fill the gap. Hungarian Price Board Chief Csikos-Nagy explained pre-1973 Hungarian policy in a statement applicable to most of the rest of Eastern Europe:

[Prior to the 1973-74 price increases for oil]—on the world market, one could obtain some 10,000 calories with \$17 of oil purchases while 7,000 calories of coal cost \$23. In these circumstances it seemed reasonable for Hungary not to make the conversion of its energy structure from coal to hydrocarbons dependent upon the degree to which the Soviet Union was able to raise oil and natural gas exports

<sup>11</sup> Assuming, of course, that the U.S.S.R. meets its commitments to Eastern Europe.

to Hungary. Even the endeavor toward replacing the extremely uneconomically mined domestic coal through oil imports from nonsocialist countries seemed justified.<sup>12</sup>

Thus, while East European imports of Soviet oil were scheduled to drop from an annual growth of 10.6 percent in 1971-75 to only 3 percent in 1976-80,<sup>13</sup> the planned increase in imports from the Middle East probably was expected to completely make up the difference.

Based on this expectation, Poland launched a refinery building program designed to more than double capacity to 28 million metric tons by 1980. Such construction was initiated even though Soviet deliveries were not scheduled to increase above the 10 million tons annually provided in 1971-75. Hungary and Czechoslovakia joined with Yugoslavia and Kuwait to construct the pan-Adriatic oil pipeline across Yugoslavia. The pipeline originally was expected to provide Yugoslavia with 24 million tons of Middle Eastern oil annually by 1980 and Hungary and Czechoslovakia with 5 million tons each. With large purchases planned by the other countries, crude oil imports from the Middle East were slated to skyrocket from 6.5 million tons in 1975 to 41 million tons in 1980.

The quadrupling of Middle East oil prices in 1973-74 dealt a serious blow to these expectations. Several countries cut back import plans immediately. Bulgarian imports of Middle Eastern crude dwindled from 2.1 million tons in 1973 to 400,000 tons in 1975; Hungary reportedly is sharply cutting its imports to about 500,000 tons in 1977.

The greatest impact, however, has been on East European import plans during 1976-80. The five importing East European countries were forced to reduced planned imports of crude oil from the Middle East by two-thirds, to an estimated 13 million tons (see Table 9).<sup>14</sup> At current prices, the 41 million tons would have cost \$3.5 billion in 1980, compared with about \$600 million actually spent in 1975. This would put an intolerable financial burden on Eastern Europe. Soaring prices for raw materials and oil and recession in their de-

TABLE 9.—EASTERN EUROPE: CRUDE OIL IMPORTS FROM THE MIDDLE EAST

(In million metric tons)

	1975	1980	
		Early plans <sup>1</sup>	Revised Plans <sup>2</sup>
Bulgaria.....	0.4	6	1
Czechoslovakia.....	0.3	5	2
East Germany.....	1.9	6	3
Hungary.....	1.5	6	3
Poland.....	2.4	18	4
Total.....	6.5	41	13

<sup>1</sup> Data are estimated.

<sup>2</sup> Revised plans are based mainly on announced changes in refinery capacity for 1980.

<sup>3</sup> Note.—Romania, which does not import any oil from the U.S.S.R., also imports oil from the Middle East. Romania purchased 5,000,000 tons in 1975 and is planning to increase these imports by 1980.

<sup>12</sup> Bela Csikos-Nagy, "The Raw Material Crises of the Capitalist World and the Economic Policy of Hungary," *Marketing in Hungary*, 1975, No. 1, p. 7.

<sup>13</sup> The 3 percent growth rate assumes no increase over 1975 deliveries and stems from the fact that deliveries were lower in 1971-74 than in 1975. Subsequent relaxation of the Soviet oil limit, raises the 1976-80 growth rate of Soviet deliveries to 6.2 percent.

<sup>14</sup> If Romania is included, planned imports from the Middle East total 24 million tons by 1980 (24 percent of total oil imports) compared with 12 million tons in 1975 (16 percent of total oil imports).

veloped Western markets already have led to record deficits and mounting debts. Moreover, OPEC's emphasis on hard currency sales and plans to limit oil production have made it difficult for the East Europeans to obtain new barter agreements and, in some cases, to maintain old agreements.<sup>15</sup>

Poland, with the most grandiose plans, also is retrenching the most. Planned refinery capacity is being cut back to accommodate crude oil imports of 20 million tons, compared with earlier plans of 28 million tons (present capacity is 15-16 million tons). Construction of new refineries at Czechowice and Poznan and the second stage of the Gdansk refinery—all scheduled for completion by 1980—have been postponed until 1981-85. The only refinery expected to come on stream in the next five years will be a 3-million ton facility at Blachownia Slaska. The existing refinery at Gdansk also will be expanded.

The Poles had little choice. In an attempt to correct a huge trade imbalance with the West, Poland has planned no growth in imports from the West during 1976-80. Imports of 18 million tons of oil in 1980<sup>16</sup> would have cost at least \$1.6 billion and the share of crude oil in total imports from the West would rise from 3 percent in 1975 to 24 percent in 1980. Instead, with the scaled-down plans and additional oil promised by the U.S.S.R., the Poles now plan to purchase only an estimated 4 million tons from the Middle East in 1980. Similar cutbacks have been made by the other East European countries. Hungary and Czechoslovakia for example, have trimmed planned oil imports from OPEC well below the oil supply anticipated from the pan-Adriatic pipeline.<sup>17</sup>

While the rest of Eastern Europe is slashing planned oil imports from the Middle East, Romania plans a huge expansion of such imports.<sup>17a</sup> In 1975 Romania was still a small net exporter of oil. With virtually no increases scheduled for domestic production of oil and natural gas during 1976-80 and dim prospects for purchasing Soviet oil, Romanian plans imply imports of an estimated 11 million tons of Middle Eastern oil in 1980 to meet their ambitious industrial growth targets. Continuation of present oil products sales—an important hard currency source—would raise imports to 17 million tons by 1980 and cost about \$1.5 billion. It is likely that import plans will have to be reduced to 9-10 million tons.

To achieve its planned goals, Romania would have to begin immediately to build additional refinery capacity to boost overall capacity from its present level of 24 million tons to 35 million tons. Romania has been negotiating for several years with Kuwait for the construction of an 8-million ton refinery at Constanta but the status of an agreement still is unclear. Even if new facilities were to be available by 1980, Romania still would need a large and quickly

<sup>15</sup> The East Europeans were able to arrange a number of agreements to exchange goods and services for OPEC oil but pay no hard currency. The East Europeans received an estimated one-half of their 1974 Middle Eastern oil imports on barter. The share under barter is believed to have declined dramatically since then.

<sup>16</sup> Eighteen million tons represents a ceiling. The Poles may have hoped to obtain more Soviet oil and thereby be able to lower imports from the Middle East.

<sup>17</sup> The pan-Adriatic pipeline may still be utilized, however, as the Friendship pipeline from the Soviet Union is already at its capacity of 50 million tons annually. The U.S.S.R. may find it cheaper to deliver OPEC oil to Eastern Europe on Soviet account through the pipeline rather than using more expensive barge or rail transport.

<sup>17a</sup> Romanian estimates were made prior to the March earthquake. While the full extent of the damage is still unknown, it is likely to affect these estimates.

exploitable oil discovery in the Black Sea or oil on easy terms from oil producing countries to be able to afford the additional oil. Its current hard currency debt of \$3.2 billion will not make the task any easier.

### *B. Development of Domestic Resources*

All the East European countries are stepping up investment to explore for oil, to develop existing energy resources, to reopen and modernize coal mines, and to recruit more miners with better housing and other benefits. Nevertheless, the growth of new energy production in 1976-80 is expected to increase at only 2.6 percent annually, a slight drop from the previous five-year growth rate. The low rate will prevail because output of oil in Romania and natural gas in Romania, East Germany, and Hungary will grow only negligibly.

Oil production in 1976-80 will increase at an average annual rate of only slightly more than 1 percent. Romania and Hungary, are not likely to expand current production significantly because their reserves are declining. The Hungarians originally had planned to hold production at the 1975 level of 2 million tons through 1980 but now have boosted planned production 7.5 percent. The Romanians have not changed their plans to increase production 6 percent to 15.5 million tons by 1980 (half the 1971-75 growth rate) but even this modest target will require extensive use of secondary recovery methods to eke out additional oil from existing fields.

The only hopes for a major discovery rest on offshore exploration. Poland and East Germany formed a joint organization with the Soviet Union in November 1975 to search for oil and natural gas in the Baltic Sea. Romania's first drilling platform began operating in the Black Sea in the second half of 1976; Bulgaria will begin Black Sea test drilling in 1979. Romania also is seeking cooperative ventures where Romanian assistance in offshore exploration and drilling will be repaid in oil. Although some of these efforts (especially Black Sea exploration by Romania) may yield results, it is unlikely that production would be significant before the 1980s.

Production of natural gas also will grow by only some 1 percent annually. Romania is holding output at the 1975 level to husband rapidly diminishing reserves. East Germany and Poland both fell far short of 1975 output targets as newly discovered fields proved disappointing. Poland may register a small gain in 1976-80 but East Germany probably will be unable to maintain the 1975 output level. Hungary expects output to peak at about 6 billion cubic meters in 1977 and remain at that level through 1980.

Nuclear energy output also will have little impact before 1980, except for Bulgaria. The addition of two 440 MW units will double Bulgarian nuclear capacity and enable nuclear energy to provide 20 percent of total electricity production by 1980. East Germany plans to put three 440 MW reactors on line by 1980, raising nuclear production's share of total electricity production to 8 percent. Less than 5 percent of electricity output in Czechoslovakia will be produced by nuclear energy by the end of the current plan period. Construction delays probably will prevent Hungary from bringing its first nuclear reactor on stream before 1981 (one year late); Romania and Poland will not have reactors operational before 1982.

With other energy sources scarce, Eastern Europe is returning to increasing domestic output of coal. Coal production plans call for a 3 percent annual growth in 1976-80, compared to the 1.7 annual gain achieved in 1971-75. One factor in the rather small increase relative to 1971-75 is that Poland, the major East European coal producer, already was pushing higher coal output in the early 1970s to obtain additional hard currency.<sup>18</sup> Moreover, brown coal production programs by Poland, Czechoslovakia, and Hungary are not expected to yield significant results until the early 1980s.

Poland, Romania, and Bulgaria plan greater boosts in coal production than the other countries. Poland has raised its earlier 1980 goal of 200 million tons of hard coal to 210 million tons, compared with the 172 million tons produced in 1975. Brown coal production of 40 million tons in 1975 will be boosted to 120 million tons by 1990, in large part through the development of the one-billion ton reserves of the Belchatow field. The Belchatow mine, Poland's largest energy investment during 1976-80, will produce 1 million tons of brown coal by 1980 and 40 million tons by 1985.

Bulgaria and Romania are making extensive use of open-cast mines in their planned increases in coal production of 40 percent and 90 percent, respectively. Bulgaria also will construct the largest underground brown coal mine in the Balkans. Romania's program, which is the most ambitious and the most difficult, already appears to be in trouble, lignite production in 1976 fell 5 percent below the 1975 level.

Although East Germany, Czechoslovakia, and Hungary have boosted earlier coal production plans, they still will be unable to achieve much growth. East Germany and Czechoslovakia face declining quality and accessibility in their brown coal production. Czechoslovakia estimates that the overburden for one ton of coal will increase from 2.6 cubic meters in 1970 to more than 3 cubic meters in 1980. Hungary, which initially had decided to allow production to decline 7 percent by 1980,<sup>19</sup> now is planning to maintain the 1975 production level until 1980. Brown coal mines being developed at Markushegy, Nagyegyhaza, and Many will enable production to grow 50 percent but not until after 1980.

### *C. Investment in Soviet Projects*

East European investment in Soviet resource development to be repaid in energy sources is not new, but there has been a dramatic increase in the size and number of such projects. The East Europeans are providing equipment, manpower, technical assistance and, in some cases, hard currency, in return for guaranteed future deliveries.

During the late 1950s and early 1960s, there was a spate of credit extensions against future materials deliveries within CEMA; most of these were small, typically bilateral, and mainly designed to increase the capacity of already functioning enterprises. The first large credit was extended in 1966 when Czechoslovakia agreed to supply \$550 million in machinery, equipment, and large diameter steel pipes during 1966-74 in return for 60 million metric tons of Soviet oil in

<sup>18</sup> Poland is the world's second largest coal exporter. In 1975, coal accounted for 33 percent of Poland's hard currency revenues.

<sup>19</sup> Bela Csikos-Nagy, *ibid.*

1971-80.<sup>20</sup> Payback of Soviet oil was to be at a fixed price. The volume was to increase steadily during the repayment period, reaching 5 million metric tons in 1975<sup>21</sup> and probably 10 million metric tons by 1980 (about half of Soviet deliveries for that year). East Germany signed a similar agreement in 1967 although the exact amount and terms of the credit are not known.

After being informed by the U.S.S.R. in the early 1970s that further increases in Soviet deliveries of energy and raw materials were contingent upon participation in joint investment projects, the East Europeans subsequently agreed to invest in a number of huge multilateral projects. Most are located in the U.S.S.R., including the Orenburg gas pipeline, Ust-Ilim cellulose paper plant, and the Kiyembay Asbestos Mining Combine.<sup>22</sup> The cost of these projects is expected to total about \$8.6 billion during 1976-80 alone, with the East Europeans contributing about \$4.5 billion. Labor participation costs may raise the total East European contribution to well over \$5 billion.

The largest project—and the most important to the East Europeans—is the \$5 billion Orenburg natural gas pipeline. The 1,700-mile, 56-inch diameter pipeline is to run from Orenburg in the southern Ural Mountains to Uzhgorod on the U.S.S.R.-Czechoslovakia border. Each East European country, except Romania,<sup>23</sup> agreed to build a separate section of pipeline with its own labor, equipment, and technical services at a total estimated cost of \$2 billion. Construction started in 1975 and is scheduled to be completed in late 1978.

The Orenburg agreement called for each East European country to make above-plan deliveries to the U.S.S.R. on credit during 1975-1978. By 1980, gas exports as payback will represent half of Soviet natural gas exports to Eastern Europe and account for about 20 percent of total East European gas consumption. In 1980-99, the U.S.S.R. is to provide 15.5 billion cubic meters of natural gas annually. Each participating country will receive 2.8 billion cubic meters annually. Romania will receive only 1.5 billion cubic meters annually.

In addition to huge multilateral deals, several East European countries also have signed bilateral agreements with the U.S.S.R. for additional energy supplies. Czechoslovakia agreed in 1975 to build a pipeline to West Germany in return for an extra 1 billion cubic meters of natural gas in 1980-99.<sup>24</sup> Poland will receive an additional 1 million tons of oil annually in 1977-80 for building a crude oil pipeline from Belorussia to Lithuania.

In most, if not all, of the joint investment agreements, the Soviet Union has made sure that the payback price is not specified but will be set at the time of delivery.<sup>25</sup> Thus, the U.S.S.R. is avoiding being locked into a low price over a long period, as it was in the 1966-67 oil agreements with Czechoslovakia and East Germany. One Soviet estimate is that that East European outlays in the U.S.S.R. will cover

<sup>20</sup> *Izvestiya*, 19 August 1969. The payback period later was extended to 1984.

<sup>21</sup> *Ekonomicheskaya Gazeta*, #19, May 1970, p. 20.

<sup>22</sup> Several projects are outside the USSR, however, including the expansion of nickel production in Cuba and the developments of a copper deposit in Mongolia.

<sup>23</sup> Romania is only providing a gas desulfurization plant, pipe, and equipment.

<sup>24</sup> The scheduled 28 billion cubic meter capacity of the Orenburg line will permit the U.S.S.R. to make sizable exports to Western Europe after satisfying the 15.5 billion cubic meter obligation to Eastern Europe.

<sup>25</sup> See, for example, *Den'gi i Kredit*, December 1974, p. 80.

only 40–50 percent of the cost of guaranteed deliveries.<sup>26</sup> The estimate can only be rough, as the actual prices paid by the East Europeans will depend on CEMA prices at the time of payback.

Despite its enthusiasm for joint investment projects, the U.S.S.R. must be disappointed with the early Orenburg results. The major types of assistance that Eastern Europe provides are hard currency equipment purchases and labor skilled in pipeline construction. Yet each country already has reduced its commitment because of shortages of both resources. East Germany will build only half of its section. Hungary and Czechoslovakia will build compressor stations but lay no pipe; Bulgaria has cut its commitment substantially. Only Poland will build an entire section but one (the section originally assigned to Hungary) that is closer to home.<sup>27</sup> All countries still must meet the financing requirements on their sections, but, except for Poland, much of the pipeline construction will be done by the Soviets.

The East Europeans, already suffering from large hard currency debts with the developed West, have had to restrict their hard currency purchases for Soviet projects. CEMA's International Investment Bank (IIB) borrowed hard currency for the Orenburg project and then provided these funds to the U.S.S.R., which has made purchases for the entire project. The East Europeans, however, owe the IIB for their share of Soviet hard currency purchases and, according to IIB rules, must repay in hard currency at world market rates of interest.<sup>28</sup> Several East European countries now are so heavily burdened with other hard currency debts that the IIB or the U.S.S.R. may have to ease their repayment demands.

Even the delivery of East European machinery and equipment on credit for Soviet projects is of little assistance to the U.S.S.R. because nearly all the East Europeans are running sizable trade deficits with the U.S.S.R. Instead of present deliveries against future payback, the U.S.S.R. is merely obtaining surpluses in non-convertible currency. The only advantage accruing to the Soviet Union is that it is able to specify the equipment and products it wants in return for its energy and raw materials. Indeed, the U.S.S.R. has implicitly recognized this by paying back "in many cases . . . the goods and services given before the project is completed."<sup>29</sup>

### D. Efficiency

The East European countries also are stressing greater efficiency in the use of energy. Thus, East German plans call for a 5 percent annual reduction of fuel consumption in industry while Romania and Czechoslovakia are planning cuts of 4 percent and 2–2.5 percent, respectively.<sup>30</sup> These savings targets are substantially higher than those of the previous five year plan. The other countries have released less data but also have indicated higher savings goals than in the past.

<sup>26</sup> V. Karpich, "Production Cooperation among CEMA Member Countries—Basis for the Progressive Development of their Trade," *Vushna Turgoviya*, No. 9, 1976, pp. 9–12.

<sup>27</sup> *Nepazabadsag*, 15 June 1975, p. 4.

<sup>28</sup> One effect of the channeling of East European hard currency borrowing and purchases through the IIB and the U.S.S.R. is a reduced understanding by Western bankers of the total East European hard currency position.

<sup>29</sup> M. Loshakov and A. Pohnenko, "Soviet Trade with European Socialist Countries," *Foreign Trade*, No. 12, 1976, p. 11.

<sup>30</sup> The East Europeans apparently measure savings in industry by energy consumed but not embodied in products. For example, the energy expended in refining crude oil would be included but not the oil that was converted to oil products.

The Romanians have published more detailed information than most other countries about their savings program. Fuel consumption per unit of output in industrial branches is to fall 11.5 percent in the chemical industry to 26 percent in the machine building industry (see Table 10). A large part of these savings (6.7 million tons of standard fuel) will come from recovery and use of waste heat from smokestacks, radiation, and cooling waters and metals in production processes. Romania also plans major gains in efficiency through the installation of large 330 MW capacity generating units in power plants with 2,000–2,500 MW capability. One-fifth of the new additions to power capacity will be thermal conversion units which will provide heat as well as electricity to factories and urban areas. Major changes also are planned by shifting to low energy intensive products and more efficient machinery. As in the other East European countries, all enterprises are subject to a comprehensive code of energy guidelines and norms.

TABLE 10.—*Romania: Reduction of average specific consumptions for 1980, as compared to 1975*

Branch:	[In percent]	Fuels
Mining industry.....		23.0
Metallurgical industry.....		14.0
Machine building industry.....		26.0
Chemical industry.....		11.5
Wood and construction materials industry.....		13.0
Light industry.....		14.8
Food industry.....		13.8

Source: Eng. Ioan V. Hereșeu, "Development of the Energy Basis," *Revista Economica* No. 28, 16 July 1976, pp. 1-2.

There undoubtedly is opportunity for significant improvement in efficiency. As a result of still heavy reliance on coal and obsolescent machinery, East European efficiency lags behind West European levels. For example, Poland uses 1.9 kg of conventional fuel for \$1 of GNP, compared with 1.36 kg for the U.K., 1.0 for West Germany, and 0.7 for France.<sup>31</sup>

Moreover, the Poles admit that there are wide variations in efficiency between recently purchased Western machinery and older equipment. The electric power used in producing one ton of similar steel pipe by Polish enterprises, for example, ranges between 85 kilowatt hours and 479 kilowatt hours.<sup>32</sup> In another measure—the consumption of fuel per kilowatt hour—, Eastern Europe does somewhat better, when compared to Western Europe (see Table 11).

TABLE 11.—*Specific fuel consumption in conventional thermal powerplants in East and West European countries, 1975*

[Grams of standard fuel equivalent per kilowatt-hour]			
East Germany.....	450	Austria.....	364
Hungary <sup>1</sup> .....	425	Federal Republic of Germany <sup>2</sup> .....	357
Czechoslovakia.....	424	Belgium.....	347
Poland.....	342	Italy.....	335
Romania.....	322	Denmark.....	319

<sup>1</sup> Public supply only.

<sup>2</sup> 1973.

Source: United Nations, "Annual Bulletin of Electric Energy Statistics for Europe, 1975."

<sup>31</sup> Andrzej Beber, *Zycie Warszawy*, No. 220, 15 Sep. 1976.

<sup>32</sup> For a comprehensive treatment of East European inefficiencies, see Edwin M. Snell, "Economic Efficiency in Eastern Europe," *Economic Developments in Countries of Eastern Europe, 1970*, pp. 240-296.

Savings of the magnitudes forecast in most East European plans will be difficult to achieve. Much of previous East European reductions in fuel consumption have resulted from conversion of plants and processes from coal to oil and gas. While such conversion will continue, its rate will be much slower. Because of growing oil and gas restrictions, some plants especially power plants, will be reconverted to coal. Moreover, power plants using coal will be operated at a maximum while those using oil will operate at a minimum. Because replacing a large portion of capital stock is costly, it will have to be done gradually. In Romania, for example, the 1976-80 plan to add over 60 percent to existing power plant capacity already has been cut back.

#### V. 1976-80 PLANS

Despite the obvious energy impediments, most East European countries still have set 1976-80 growth goals for national income and industrial production close to the performance of the previous plan (see Table 12). Moreover, planners project about the same growth rates for energy consumption as that achieved during 1971-75. Energy requirements have been increased, in part, to fuel the major expansion planned for the machine building and chemical industries—both heavy energy users. The anticipated growth of machine building production is due largely to the near-doubling of machinery exports to the U.S.S.R.<sup>33</sup> These exports are necessary to meet commitments for Soviet projects and to cover the higher prices charged for Soviet raw materials.

TABLE 12.—EASTERN EUROPE: COMPARISONS OF ECONOMIC GROWTH INDICATORS, 1971-75 AND 1976-80

	Average annual national income growth		Average annual industrial production growth	
	1971-75	1976-80	1971-75	1976-80
Bulgaria.....	7.9	8.4	9.1	9.2
Czechoslovakia.....	5.7	5.1	6.7	5.7-6.0
East Germany.....	5.4	5.1	6.4	6.0-6.3
Hungary.....	6.2	5.6	6.5	5.9-6.2
Poland.....	10.1	7.3	11.6	8.2-8.4
Romania.....	11.3	10.5	13.1	10.1-11.2

Source: Official plan statistics.

Rapid growth of the chemical industries is viewed by the East Europeans as more critical—"chemicalization" of their economies is considered the key to modernization, to increased efficiency, and to continued economic growth. They also see development of petrochemicals, especially plastics and synthetic fibers, as an opportunity to reduce hard currency imports and, in the case of Czechoslovakia, East Germany, and Romania, to increase hard currency exports. Czechoslovakia, for example, is planning to export larger amounts of chemical products to hard currency markets and to replace hard currency imports of cotton, wool, and leather with their own production of plastics.

Although Soviet oil sale restrictions and high cost Middle Eastern oil pose difficulties, earlier energy trends will continue during 1976-80.

<sup>33</sup> Mihoshakov, A. Pollyenko "Soviet Trade with the European Socialist Countries: Results and Prospects," *Foreign Trade*, No. 12, 1976, pp. 7, 9.

Energy imports will still grow faster than domestic production of energy and will rise to about 25 percent of energy consumption by 1980. Domestic energy production will grow more slowly, despite East European efforts to stimulate its growth.

During 1976-80, the Soviet Union still will be Eastern Europe's chief source of energy, supplying 75 percent of their crude oil imports (86 percent excluding Romania) and virtually all of their natural gas and electricity imports. Soviet supplies of natural gas to Eastern Europe will almost triple, although most of the increase will occur in 1979-80. Nevertheless, the rate of growth of Soviet deliveries of energy is declining despite the U.S.S.R.'s willingness to increase exports of oil and gas. The East Europeans are attempting to adjust to these lower levels by a) stepping up domestic production; b) increasing imports from the Middle East; c) improving industrial efficiency; and d) slowing overall growth slightly.

The East Europeans admit that their energy plans are demanding; some evidence of strains already appeared in 1976. Brownouts and power curtailments to industry have become more common. Czechoslovakia rationed electricity to both consumers and industry, and Poland rationed coal for home heating. The growth of Bulgaria's chemical industry fell far short of targets partly because of a pinch in oil supplies. Romanian lignite production declined 5 percent from the previous year, despite a huge planned increase, forcing it to expand production of their shrinking gas reserves. Romania's plan to reduce gas use in 1977-78 by enough to offset the overuse in 1976 signals a further pinch in energy supplies ahead.

If available energy supplies fall seriously short of plan, the East Europeans probably will be forced to reduce economic growth goals. It is unlikely that they will be willing to reduce planned improvements in consumer welfare very much—most consumers already are being asked to sacrifice and the memory of events in Poland in 1976 is still fresh. Without significant—and unexpected—improvement in trade balances with the West, it will be difficult for the East Europeans to increase oil purchases from the Middle East. And short of situations where the U.S.S.R. fears political stability is at stake, the Soviet Union is unlikely to provide much more oil in 1976-80.

Eastern Europe's energy situation may become even bleaker after 1980 because Soviet oil production is expected to peak or even decline by 1985. Any decline in Soviet oil deliveries would be critical for Eastern Europe's economic growth. Investments in nuclear energy and brown coal production will not bear significant fruit before the 1980s.

Premier Kosygin has proposed that the East European's invest in the construction in the U.S.S.R. of high volume petrochemical plants thus enabling the East Europeans to buy petrochemicals from the U.S.S.R. and reduce their oil requirements.<sup>34</sup> Eastern Europe could then specialize in the production of low tonnage, high technology products. The East Europeans, however, are certain to resist these proposals as increases in petrochemical production are central to their growth plans and hard currency export goals. Nonetheless, if Soviet crude oil becomes less accessible they may be forced to give serious consideration to the Soviet proposal.

<sup>34</sup> *Planovoye Khozyaystvo* No. 9, 1976, p. 3.

# THE INTERNATIONALIZATION OF THE EAST EUROPEAN AUTOMOTIVE INDUSTRIES

BY IMOGENE EDWARDS AND ROBERT FRASER

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## I. INTRODUCTION

Like other small industrialized countries, those of Eastern Europe have found it very difficult to independently produce on an economic scale such highly complex products as motor vehicles. Indeed, even the attempt by the Council of Mutual Economic Assistance (CEMA) to take advantage of the economies of specialization by assigning major product lines to member countries has not proven to be a viable alternative. As a result, in addition to intra-CEMA cooperation, the East Europeans have adopted bilateral arrangements with Western companies for product development and production technology. Moreover, the present pattern of development suggests that even if East European countries substantially expand cooperation among themselves, they will continue to depend on Western firms for the foreseeable future.

Although several East European countries have invested heavily in Western licenses, process technology and machinery to create or expand automotive production, the total capacity of the region is not large by world standards. Production of a million vehicles in 1975 can be compared to output of more than 800,000 in Spain alone. Moreover, few of the vehicles being produced are competitive in world markets.

The U.S.S.R. is not able to assist the East European countries with modern product design, manufacturing engineering services, or production equipment. Neither is it a ready source of common auto

motive accessories. For these items, the East Europeans mainly supplement regionally available supplies by importing from the West. However, the Soviet Union has provided an expanded market in recent years for automotive components made in Eastern Europe, thus assisting the producers in that region to reach economical scales of output.

This paper discusses the strategies developed by the East European countries in providing for their automotive transportation needs. It begins in Section II with a look at the condition of the auto industry in the area at the time when Communist regimes were established. Section III provides a description of the industries as they have developed since then. Section IV indicates that although Eastern Europe is dependent on the West for automotive technology, a substantial trade in vehicles and components takes place among themselves as they capitalize on extensive international specialization.

In Section V we discuss national policies on the production and use of motor transport, which have evolved substantially over the years, particularly with respect to private ownership of passenger cars. Finally, in Section VI there is an analysis of the basic economic problems in establishing automotive industries in small countries with command economies and of the measures taken to solve them.

## II. HISTORICAL PERSPECTIVE

In the late 1940s, following the end of the Second World War, only Czechoslovakia was able to produce motor vehicles in substantial numbers. Yugoslavia's production of a few hundred Praga trucks before 1950 was made possible by the supply of parts from the parent Czechoslovak firm.

In Hungary a desultory effort was made to reestablish the production of two models of German trucks made under license before World War II, but the effort was abandoned by 1949. Instead Hungary obtained a license to produce the Austrian 3½-ton Steyr-Daimler-Puch diesel-powered truck.<sup>1</sup> The major components of these trucks were also incorporated in Ikarus buses, a newly organized production activity which has become more successful in Hungary than truck production.

Reestablishment of motor vehicle production in East Germany, source of about a third of the total automotive output of prewar Germany, was held up until 1949 because the U.S.S.R. first dismantled and carried off most of the existing production machinery, and then organized the residual production facilities into Soviet companies to maintain, repair and make parts for Soviet military vehicles. When the East German motor vehicle industry finally was established, in 1949, it was only with substantial imports of production equipment and parts from West Germany and Czechoslovakia.

Poland began production of an indigenously designed 3½-ton truck, the Star-20, in 1948 in a remodeled German armaments factory. By 1951 the Poles were assembling the Soviet passenger car Pobeda (renamed *Warszawa*) at Zeran, and by 1952 the Soviet 2½-ton truck, GAZ-51, at Lublin. Both plants received their initial equipment from the U.S.S.R.

<sup>1</sup> The term, 3½-ton truck, indicates that the truck can carry 3½ tons of cargo.

Attempts at motor vehicle production were unsuccessful in Romania until the assembly of the Soviet ZIL-150 truck was undertaken at Orasul Stalin in early 1954 using Soviet technical assistance and parts. In 1957 the assembly of Soviet GAZ-69 jeeps was undertaken. Bulgaria did not attempt motor vehicle production until 1967 when an assembly plant for Soviet GAZ-53 trucks was established.

Yugoslavia assembled vehicles only from imported parts before World War II and had little indigenous capability. Today its industry is fairly well developed but suffers somewhat from a proliferation of West European models assembled from both imported and domestic components.

As the individual national industries developed during the 1950s it became evident that none was large enough to be efficient. There was considerable duplication, offering opportunities for economies through international specialization. The program of international cooperation devised by CEMA in 1959 proposed a division of responsibility for component parts of vehicles in addition to assigning the production of types and models to certain countries.

Most of the East European countries have strongly resisted loss of their rights to continue to produce whatever types of motor vehicles they choose. Nevertheless, some cooperation and coproduction has taken place since 1959, in most cases because cooperation was clearly an advantageous national course and not because CEMA ordained it. These cooperative arrangements are primarily bilateral, and coincidence with overall CEMA strategy is fortuitous.

The initial tendency toward dependence on the Soviet motor vehicle industry for parts and technology has been replaced over time by programs of coproduction with the U.S.S.R. Poland no longer produces or assembles Soviet models, and Romania's trucks have evolved into indigenous designs. Only Bulgaria still assembles Soviet light trucks and passenger cars from complete kits imported from the U.S.S.R., and sends some truck parts to the U.S.S.R. in repayment. The U.S.S.R. has been the major source of imported vehicles for Bulgaria.

Today, the countries whose motor vehicle industries are relatively new (Poland, Bulgaria, Hungary, Romania, and Yugoslavia) are engaged in cooperative and technological assistance programs with Skoda of Czechoslovakia or with one or more Western firms. East Germany still depends entirely on its own technology, but that suffers from a lack of modernization.

### III. NATIONAL CAPABILITIES

Eastern Europe produced about 1 million motor vehicles in 1975, of which more than three-quarters were passenger cars.<sup>2</sup> This volume of output was only 25 percent above that of Spain, one-half of the Soviet Union's, and 60 percent of France's. The following tabulation shows production in Eastern Europe in 1975 by major category of vehicle and producing country:

<sup>2</sup> See Table 1 for motor vehicle production in the USSR and Eastern Europe, selected years, 1950-1975. See Table 2 for motor vehicle registrations in Eastern Europe, beginning 1975. See Table 3 for characteristics of motor vehicles in production in Eastern Europe in 1975.

[In thousands]

Country	Passenger cars	Commercial vehicles	Total
Bulgaria.....	12	7	19
Czechoslovakia.....	175	36	211
East Germany.....	165	35	200
Hungary.....	0	12	12
Poland.....	173	85	258
Romania.....	58	42	100
Yugoslavia.....	183	23	206
Total.....	766	240	1,006
U.S.S.R.....	1,201	763	1,964
Spain.....	696	118	814
France.....	2,952	347	3,299

Note: Data for Czechoslovakia, Poland, U.S.S.R., and Yugoslavia are from officially published statistical handbooks for those countries. Data for East Germany, Bulgaria, Hungary, and Romania are estimated from fragmentary published information for 1975 and statistics of previous years.

Although the scale of production is increasing it remains very small by world standards. Each of the larger producing countries has one major plant with a capacity of 100,000 to 150,000 cars a year and one or more smaller assembly plants. The truck facilities are even more diffused. The larger producing countries have several truck plants that produce 5,000 to 16,000 units a year. Bus manufacture is concentrated in Hungary and Poland (see Figure 1 for a map locating the principal automotive plants).<sup>3</sup>

#### A. Czechoslovakia

Of all the East European countries only Czechoslovakia has demonstrated the capability to carry out a viable indigenous and evolutionary program for the development of new models of trucks and passenger cars. The Czechoslovak industry dates from 1897, in the days of automotive pioneering, and it emerged relatively intact from ravages of the Second World War. Moreover, because it historically has enjoyed a good export market, it has had a high priority claim on national economic resources since the end of the War—a priority not initially given to the automotive industries of the other East European countries. As a result, the Czechoslovak industry has nearly kept pace with the advancing state-of-the-art in the West.

Although it was foreseen by the CEMA plan of 1959 that Czechoslovak technology would be a major factor in the development of the automotive industries of the other East European countries, only the exchange with Poland and Bulgaria of major components for Škoda trucks and buses materialized. Even so, the Polish heavy truck program, which was originally based on Skoda technology, has shifted to principal reliance on British, Swedish, and Austrian technology.

Czechoslovakia produces trucks of indigenous design in a rather large assortment of sizes and types (carrying capacities from 1½ to

<sup>3</sup> In the U.S., the average capacity of a car producing plant is 230,000; 65,000 for a truck plant.

14 tons) needed by a modern economy. Tatra trucks of 12- to 14-ton size, produced at Koprivnice, are in high demand in Eastern Europe and the U.S.S.R., and the annual capacity for manufacturing them is being expanded from roughly 7,500 to 15,000 during the 1976-1980 period. Much of the equipment is being imported from the West.

Plants at Liberec and Mnichovo Hradiste produce about 7,000 10-ton Skoda trucks a year, about half of which are exported. The Liberec plant, under a joint production agreement, also supplies components for the assembly of trucks at Bulgaria's Madara plant at Shumen. Production of the 10-ton Skoda Madara is about 2,000 a year. The Prague plant manufactures 5-ton heavy Praga trucks with Tatra engines in several versions at the rate of 5,000 a year for domestic uses and export. The Avia plant at Letnany manufactures light service trucks (1.5 to 3-tons) under license from Renault (Saviem) of France. The plant began assembly in 1968 using imported parts and now produces at about half the planned rate of 12,000 trucks a year, although new construction will raise output in the 1976-1980 period.

Czechoslovakia also produces about 2,000 Skoda buses a year for both urban and interurban transport. Chassis are made at Liberec, some for shipment to Poland, Bulgaria, and a number of developing countries which build their own bus bodies. A new line of Skoda, buses in various models has been produced at the Karosa Bus Plant at Vysoke Myto since 1970 for domestic use and for export.

Passenger car production in Czechoslovakia consists principally of the Skoda four passenger subcompact with rear engine and rear drive. Although it generally receives high marks in Western markets as a well made modern vehicle, the difficulty of obtaining parts and service in a timely fashion has resulted in a heavy price discount compared to the models of its Western competitors.

The Tatra firm, although best known for its heavy duty trucks, also turns out about two thousand high quality compact (6 passenger) cars annually. These are purchased for official use by Communist Party and other elites in Eastern Europe and the U.S.S.R. and are exported to Western countries. The design was originated by the famous Tatra designer, Hans Ledwinka, and is generally believed to have influenced Dr. Ferdinand Porsche's designs for the Volkswagen.

Prague is pushing ahead with plans to bring the industry up to world standard and to put into production a new line of cars for export. The government is spending heavily to renovate the Mlada Boleslav plant, the principal car producer, and to build a new assembly plant at Bratislava in Slovakia. Capacity of the plants will be 200,000 and 100,000 cars a year, respectively. The Bratislava plant was started in 1974 and on completion will assemble cars from components supplied from Mlada Boleslav, although it will make some body parts. Much of the equipment for the new facilities is being purchased in the West.

### *B. East Germany*

East Germany makes light and medium trucks and small passenger cars. The trucks, which are sold domestically or exported to other East European countries, are based on pre-World War II designs and have no market in advanced Western countries. The passenger cars

have two-stroke cycle engines of early vintage DKW (Deutsche Kraftwagen Werk) type which has been abandoned by all West European producers and will soon be discontinued in Poland as well. The lubricating oil for these engines is poured into the fuel tank, making it impossible for the engine to achieve West European emission standards. As a result, exports of these cars to Western Europe as hard currency earners will ultimately end. Consequently, East Germany is under some pressure to introduce a four-stroke cycle engine.

The East Germans negotiated with the Czechoslovaks for several years for a coproduction program that would provide East Germany with a Czechoslovak four-stroke cycle engine and in return, provide Czechoslovakia with East German transmissions. It was foreseen that such a division of labor would allow passenger car production in each country to go up to the 300,000 per year mark, generally considered in Eastern Europe to be the minimum economic scale of output. Moreover, substantial economies would come from producing major components in a volume of about 600,000 per year.

However, in late 1975 negotiations ended, apparently because of disagreement on the size of the common engine. In addition, there are probably other factors, such as a Czechoslovak preference for a rear engine rear drive design, while the East Germans favor front wheel drive. The latter is now preferred by many Western producers because it offers superior packaging of passengers and baggage. Moreover East Germany may wish a cooperative program with a Western firm to assure access to a continuing supply of modern product design and production technology. East Germany's continuing delay to modernize its obsolescent product and increase productive capacity probably also reflects difficulties in mobilizing hard currency to pay for modern Western production equipment and other technical assistance.

The larger of the two passenger car models, the Wartburg, is produced at Eisenach in the old BMW plant, at a rate of nearly 40,000 per year. The smaller Trabant is produced at Zwickau in the old Audi plant at a rate of about 100,000 per year. Although outmoded by Western standards, both sell well within Eastern Europe.

Production in East Germany's small truck industry has leveled off at roughly 35,000 units a year, although earlier plans called for a somewhat higher output. The industry is consolidating production by phasing out some models and specializing in three types, the 5-ton W-50, made at Ludwigsfelde, the 2½-ton Robur, made at Zittau, and the Barkas delivery van, made at Hainichen and Karl-Marx-Stadt. East Germany carries on a broad exchange of trucks with other Communist countries and is updating its transport fleet by buying Western made heavy truck-tractors from Daimler-Benz, Volvo, and FIAT.

Buses are no longer made in East Germany. In 1973 the industry phased out its small bus production and began to build chassis for bus plants in Hungary.

### *C. Hungary*

Hungary may have the economically most viable automotive industry in Eastern Europe. After attempting to establish truck and bus production based on pre-WWII components under license from Steyr-

Daimler-Puch of Austria, Hungary has narrowed its industry into two major specialities: (a) modern heavy components for trucks and buses, principally diesel engines and rear axles built under license from MAN of West Germany, and (b) modern heavy trucks and buses incorporating these components.

Hungary has three principal motor vehicle manufacturing facilities. These are the Raba-Mavag plant at Győr which produces diesel engines and rear axles under the MAN license, and assembles MAN heavy trucks using some imported MAN components; the Ikarus Bus Plant near Budapest which makes bus bodies; and the Csepel truck plant at Budapest which produces trucks and bus chassis under Steyr license, assembles all-wheel-drive trucks, and manufactures such major components as power steering gears and the gear box end of torque converter transmissions for trucks and buses.

Ikarus enjoys a good reputation for the design and production of large modern buses, both city and interurban. It exports buses in large numbers (about 90 percent of output) to both Communist and Free World countries, with the USSR taking the lion's share. Production reached close to 10,000 in 1975 and is scheduled to rise to 13,000 in 1980.

The Raba-Mavag plant in cooperation with MAN of West Germany builds heavy duty trucks and truck-tractors in a number of 2- and 3-axle variants at the rate of about 1,500 a year. Many of the MAN diesel engines and axles produced in the Raba plant are incorporated into Ikarus buses. Raba also ships rear axles to Soviet bus plants and in return, Ikarus receives Soviet automatic transmissions, power assisted steering gears, shock absorbers, and front axles for buses. Hungary receives transmission parts, bearings, shock absorbers and other parts for Ikarus buses from Czechoslovakia and Yugoslavia. East Germany supplies bus seats.

Hungary plans to discontinue the medium weight (5-6 ton) truck produced under Steyr license at Csepel and confine that plant's activity to high volume output of major components (transmissions, power steering gears, axles) for heavy trucks and buses for the export market in Eastern Europe and the USSR, and chassis for Ikarus buses. In addition, the Csepel plant has initiated production of a civilian jeep, the Swedish Laplander, under a joint venture with Volvo. The new firm—Hungary's first venture in joint ownership, with Sweden holding 48%—will build about 1,200 jeeps a year. Volvo will supply the engines and steering gear and Csepel the frames and bodies.

By avoiding the production of passenger cars, Hungary has greatly simplified its product assortment both in vehicles and components, thus permitting the industry to consolidate its resources and to produce high quality products. Success in this endeavor led to the co-production agreement with the Steiger tractor company, a U.S. firm, and may lead to a contract to supply heavy truck axles to the International Harvester Company. By 1980, nearly 30 percent of its exports of heavy vehicle components may go to hard currency areas.

Passenger cars are imported from both Eastern and Western Europe, and the currencies to pay for them are earned by exporting small component parts, such as car radios and wiper motors. The acceptability of these products is not based on public perceptions of worth or style, as is true of complete passenger cars, but on Hungary's ability to produce them to the user's specifications at attractive prices.

*D. Poland*

Unlike Hungary, Poland seems intent on establishing an integrated automotive industry with a complete assortment of product for all transportation needs. The Polish catalog of motor vehicles for local sale or export includes light, medium and heavy trucks, buses, and compact, subcompact and mini-compact passenger cars. With the exception of the medium weight Starachowice trucks, the vehicles and their components are produced under foreign licenses. The domestic burden of general industrial support for Poland's auto industry is considerably lightened by coproduction arrangements with foreign licensors.

In the past decade Poland has expanded its automotive industry nearly fourfold and has become the largest motor vehicle producer in Eastern Europe, surpassing the traditionally big producers, Czechoslovakia and East Germany. Poland's passenger car industry, is based almost wholly on FIAT licenses; over 85 percent of the 173,200 cars made in 1975 were FIATs. The major plant at Zeran near Warsaw builds FIAT 125 sedans, most of which are exported, and a new facility at Bielsko Biala in Silesia in 1975 started turning out the smaller FIAT 126 for the domestic market. At Zeran, the FIAT has completely replaced Poland's outmoded Warszawa which was based on a Soviet design. Warszawa chassis are still made for use in delivery vans. The Syrena, Poland's compact car, made at Zeran since 1957, has been redesigned and is produced at the small car plant at Bielsko Biala.

Poland has a substantial coproduction program with Yugoslavia which is made possible because both countries produce passenger cars under FIAT license, and, by exchanging parts, both achieve major economies of scale. Parts are received from Hungary for the Polski FIAT-126P and paid for by exporting the finished product to Hungary. Moreover, Poland is a major supplier of FIAT components to the Soviet VAZ plant at Tol'yatti.

Poland is also using Western assistance to upgrade its truck and bus industries. Many trucks, including the 4- and 6-ton Starachowice and 8- to 11-ton Jelcz, are outfitted with diesel engines of UK design. Poland builds the Leyland diesel engine under UK license and imports Perkins diesel engines from the UK. In 1975, Poland was licensed by Massey-Ferguson to produce Perkins engines. Technology from Austria's Steyr-Daimler-Puch firm is used for production of components (axles and chassis) for Jelcz trucks and steering and suspension mechanisms for Sanok buses. In 1974 Warsaw signed agreements with two Swedish firms that will provide technical assistance in exchange for components: Volvo will assist in building truck tractors at Starachowice and the Kockums firm will aid the building of dump trucks at Poland's Fadroma plant at Wroclaw. Poland is specializing in production of light service trucks, Żuk and Nysa, for the export market.

To strengthen its bus building capability, Warsaw in 1972 signed a joint production agreement with Berliet of France to make buses at the Jelcz plant at Wroclaw. At the capacity of 5,000 buses a year, the plant will be one of Europe's largest builders of urban, intercity, and tourist buses. Berliet is supplying technical assistance, equipment, and some of the components, and in return will receive finished buses and certain components.

Poland would like to diversify its product assortment further by introducing a line of light trucks and vans based on licenses and technical assistance from a Western firm but is presently having difficulty finding the necessary hard currency. Such a product ought to have a good market in Eastern Europe where consumer services are receiving increased attention, and existing production of such vehicles is still quite small.

### *E. Romania*

Bucharest is determined to build a strong and independent industry that is internationally competitive, with a view to selling its products in hard currency markets. Most of Romania's trade in automotive goods at present is with other Communist countries, to compensate for CEMA-produced industrial materials. Despite this reality, the government is standing firm against pressures for CEMA integration that would impinge on its pursuit of national goals for the industry.

In order to afford to import more Western technology, the government is studying the possibility of joint ventures with Western firms as a means of obtaining both the process technology and the capital funds for new automotive plants. Bucharest has approached Western firms, including several in the U.S., concerning joint production of small cars, heavy and light trucks, diesel engines, and various components.

Romania has four main assembly plants. The Dacia car plant at Pitesti produces 40,000 Renault cars a year with some assistance from France. Under a 1966 agreement, Renault supplied half of the components for assembly of the small sedans and received payment in transmissions. Presently Romania makes 80 percent of the components for Dacia cars and delivers 35,000 transmissions a year to Renault. Half of the Dacias are exported to other Communist countries, but Romania is testing the cars' competitiveness in hard currency markets in the hope of expanding exports to the West.

Romania's largest truck plant, located at Brasov, makes about 36,000 medium cargo trucks a year of the Bucegi model, derived from the Soviet ZIL design. Production of the obsolete Carpati 3-ton truck was discontinued around 1970. About half of the Brasov trucks are exported, many of them to China. Brasov also produces (a) 8- to 10-ton heavy diesel Roman trucks, under a 1971 cooperative agreement with MAN of West Germany, (b) MAN diesel engines and Saviem diesels (under Renault license), and (c) axles for MAN at the rate of 2,000 or more a year. Because Hungary also builds MAN components, Romania augments its domestic production by importing some varieties of engines from Hungary.

At Bucharest the industry turns out 4,000 buses a year on Brasov chassis for domestic and other CEMA markets. Jeep utility vehicles are made at Chimpulung at the rate of 8,000 to 10,000 a year, some of which are marketed in the West.

Romania has aspirations to produce large off-highway dump trucks in 25, 50, and 100 ton sizes but does not have the capability to develop and manufacture the necessary heavy diesel engines, power shift transmissions, axles or electric wheels. A few trucks have been produced in the 17-ton payload size using the 215 horsepower MAN engine.

*F. Bulgaria*

Bulgaria does not have an integrated auto industry but is developing production capacity and experience by making parts for export to the other Communist countries. In exchange for knocked-down Soviet GAZ-53 trucks, which are assembled at Shumen, Bulgaria exports component parts to the U.S.S.R. for the ZIL-130 truck. Bulgaria has contracts to supply the U.S.S.R. with power steering gears for the Kama truck, rear axles for other trucks, electrical equipment for VAZ passenger cars (Tol'yatti plant), such as batteries, generators, starters, regulators, and coils. Perkins (UK) engines have been made under license at Varna since about 1967.

Bulgaria also assembles Skoda Madara 8- and 10-ton trucks under license at Shumen, using Czechoslovak parts, and is committed to establish production of rear axles for Skoda trucks in repayment for imported parts. Production is expected to develop to the point where the Shumen plant may supply all of Skoda's rear axles and import only engines and transmissions from Skoda. An agreement with the West German firm Kässbohrer will allow Bulgaria to produce the Setra bus on the Madara truck chassis.

Bulgaria assembles Soviet Moskvich and VAZ passenger cars at Lovech from knocked down kits. During the last ten years, FIAT and Renault passenger cars have been assembled in Bulgaria in small numbers, but this activity has ended. In 1975 Bulgaria announced an agreement with Volvo on technology and trade including production sharing, but the lack of subsequent information suggests the proposed agreement was not implemented. Although Bulgaria signed a new protocol with Renault in June 1976, apparently it also has not been implemented.

Bulgaria is the leading producer of electric lift trucks in the Communist World and exports them to hard currency areas in substantial numbers. Bulgaria also has a substantial production capacity for lead-acid storage batteries, and exports them to all the Communist countries, including 300,000 a year to the USSR for the VAZ passenger cars.

Its comparative advantage in lift trucks has permitted Sofia to make a deal with Daimler-Benz to exchange lift truck technology for heavy Mercedes truck-tractors. Through a subsidiary, Daimler-Benz participates with Bulgaria's Balkankar Plant and Irion, a West German lift truck manufacturer, in a new company in Stuttgart to build Balkankar's three wheeled electric lift truck for sale in the West. Bulgaria uses the heavy Mercedes truck-tractors to haul freight trailers on its international routes.

*G. Yugoslavia*

The motor vehicle industry of Yugoslavia is characterized by a strong market orientation and substantial participation of Western firms, including equity holdings in Yugoslav plants. Four firms turn out passenger cars and five firms are engaged in assembling trucks and buses or producing components for them. With the exception of Zastava production at Kragujevac, Serbia, the manufacture of cars and commercial vehicles in Yugoslavia depends on the use of many imported components.

The industry is dominated by the Crvena Zastava Plant, which with its associated supplier plants comprises Yugoslavia's only integrated motor vehicle production enterprise and produces 80 percent of national automotive product. This firm was established in 1954 with FIAT technical assistance, and some FIAT equity ownership. Yugoslav production of components for FIAT cars has greatly increased over the years, and although coproduction of vehicles and exchange of parts still goes on between FIAT Turin and Crvena Zastava, the Yugoslav firm is substantially free of dependence on outside parts suppliers.

Crvena Zastava has cooperative production programs with a number of firms that also are engaged in producing FIAT products, including the Polski FIAT plants and the Soviet Tol'yatti plant.

The distribution of production among Yugoslav firms in 1975 is presented in the following tabulation.

Plant	City	Model	Output
<b>PASSENGER CARS</b>			
Total passenger cars.....			183,182
Crvena Zastava.....	Kragujevac.....	Zastava (FIAT).....	143,855
Industrija Motornih Vozil (IMV).....	Novo Mesto.....	Renault.....	19,066
Tovarna Automobilov Cimos.....	Koper.....	Citroen.....	8,182
Unis-TAS.....	Sarajevo.....	Volkswagen.....	12,079
<b>TRUCKS</b>			
Total trucks.....			17,345
FAP-Famos.....	Priboj na Limu.....	Mercedes.....	4,647
IMV.....	Novo Mesto.....	Renault.....	1,883
Tovarna Automobilov in Motorjev (TAM).....	Mirabor.....	Magirus-Deutz.....	6,850
Unis-TAS.....	Sarajevo.....	Volkswagen.....	267
Crvena Zastava.....	Kragujevac.....	OM (FIAT).....	3,299
Others.....			399
<b>BUSES</b>			
Total buses.....			5,040
Automontaza (assembled on indicated chassis).....	Ljubljana.....	TAM.....	670
		MAN.....	100
		Scania.....	8
FAP-Famos Autokaroserija Autobus Plant, Oct. 11.....	Belgrade.....		
	Zagreb.....		453
	Skopje.....		1,077
Ikarus.....	Zemun.....		463
IMV.....	Novo Mesto.....		1,228
TAM.....	Mirabor.....		1,711

<sup>1</sup> Includes 670 bodies made by Automontaza, Ljubljana.

Source: Biro Proizvodaca Motornih Vozila.

Crvena Zastava, based in Serbia, wants the other three passenger car firms, Cimos, IMV, and TAS, that assemble cars from imported parts, brought into a national corporation under Crvena Zastava's control so that passenger car production can be centrally planned. Regional factionalism, revealed in the public debate on this issue, and other considerations have held up the consolidation.

#### IV. TRADE PATTERNS

As shown in Tables 4 and 5, the U.S.S.R. is by far Eastern Europe's largest trading partner in automotive products, although the East European countries exchange their vehicles among themselves and most of them sell automotive products in the West to earn foreign

exchange. In 1975, Eastern Europe imported Soviet cars, trucks, buses, and parts valued at nearly 600 million rubles and supplied the U.S.S.R. with automotive products worth two-thirds that amount. The Soviet FIAT (VAZ-2101) is the principal East European import and Ikarus buses and automotive parts and components are the principal exports to the U.S.S.R. Trade totals for 1975 were as follows:

	Units			Million rubles	
	Cars	Trucks	Buses	Parts	Total
Imports from the U.S.S.R. ....	215,000	18,000	448	166	581
Exports to the U.S.S.R. ....	0	5,000	9,597	180	407

The VAZ-2101, known abroad as the Lada, is particularly popular in Eastern Europe because it offers the Western design and engineering features, so desired in Communist countries, without the need to spend hard currency. The U.S.S.R. thus has rapidly increased its share of the car markets in Eastern Europe since 1970 and is presently supplying about a third as many cars as the domestic plants are producing.

Eastern Europe has largely offset the rapid rise in imported Soviet passenger cars by a tripling since 1965 of exports of automotive products to the U.S.S.R., mainly in the form of parts for the VAZ-2101. The U.S.S.R. received in 1975 some 180 million rubles worth of parts and components for cars, trucks, and buses and over 225 million rubles of complete vehicles—mainly large city and intercity buses made in Hungary, and trucks from Czechoslovakia and Poland.

Czechoslovakia, East Germany, and Poland lead the other East European countries in the total export of cars; Hungary and Poland are the major exporters of buses; and East Germany, Czechoslovakia, and Poland of trucks. The countries supply each other with large numbers of parts and subassemblies under long-term bilateral trade agreements. Poland and Yugoslavia in particular have extensive cooperative programs for producing cars of FIAT design and during 1976-1980 will exchange components worth \$230 million.

Exports to the West come principally from Czechoslovakia, Poland, and Yugoslavia, each of which exports between 20,000 and 40,000 vehicles a year. Cars that are based on Western design and engineering enjoy moderate acceptance while those designed indigenously are less attractive to Western buyers.

## V. NATIONAL POLICY ON DEVELOPMENT OF THE INDUSTRY

During the initial stages of the post-WWII development of the motor vehicle industries of Eastern Europe, priority was given to producing medium sized stake and platform trucks with cargo capacities ranging from 2½ to 4 tons. This class and size of truck provides a useful compromise in satisfying the diverse requirements of industry and agriculture. Moreover, during this period of priority for the establishment of heavy industry in the countries of Eastern Europe, insufficient resources were devoted to the automotive industry to provide a variety of vehicles.

### *A. Improved Product Assortment*

However, as the automotive industries developed, it became possible to expand product mixes to include more sizes and types of trucks including special forms for parcel delivery, furniture moving, crane and mixer carriers, loose aggregate materials, refrigerated cargo, passenger transportation, and highway express service. Table 3 lists the main characteristics of trucks and passenger cars presently in production in Eastern Europe.

### *B. Popular Motorization*

Moreover, official attitudes toward private ownership of passenger cars changed markedly by 1960. During the 1950s, when economic policy favored rapid industrialization, consumer interests had to wait. The few passenger cars produced each year in Czechoslovakia, East Germany, and Poland were intended primarily for taxi service, government officials, essential services (e.g., doctors), and for export. A few were offered for public sale at very high prices and were acquired by members of the political and cultural elite who paid the full price in advance and then waited several years for delivery.

By 1960, official attitudes on production of cars for private ownership began to soften, partly because the most urgent needs for commercial and official vehicles were being satisfied and partly because something more had to be done for rising consumer expectations and to absorb excess savings. Moreover, there was a perception common to both the Developed West and Eastern Europe that a country could not call itself industrialized if it did not have a substantial program for popular motorization.

Finally, and significantly, it should be noted that each country wanted to produce vehicles for export. Moreover, because they wanted to produce cars that would be acceptable in Western markets they were forced to turn to the West for product design.

As shown in Table 1, production of passenger cars in Eastern Europe has grown substantially in the period since 1960. Moreover shipments of Soviet cars into Eastern Europe have more than compensated for exports from that region. Nevertheless, the waiting lists of hopeful buyers remain long for the more affordable cars, although the more expensive ones are often immediately available but remain unsold because of their high prices.

Car prices in Eastern Europe are administered by the governments (except for Yugoslavia) and are high compared with Western prices. In the U.S., the price of a subcompact (Pinto, Vega, Gremlin) is equivalent to about 4 months earnings for an average industrial worker. The wage equivalent for a comparable small car in Eastern Europe varies from a low of 10 months in East Germany to a high of 47 months in Rumania and Hungary. In addition to relatively low industrial wages in Eastern Europe all the regimes use very high sales (turnover) taxes on cars and other consumer durables as a revenue earning device. These wage-price relationships are reflected in the larger number of registrations per 1000 persons in the population in East Germany compared with Rumania and Hungary, as shown in the following tabulation for 1975. They are also reflected in the fact that waiting lists remain long in East Germany where cars are relatively cheap and demand is high.

REGISTRATIONS OF PASSENGER CARS IN EASTERN EUROPE, U.S.S.R., AND SELECTED WESTERN COUNTRIES,  
BEGINNING 1975

Country	Passenger cars <sup>1</sup> (thousands)	Population <sup>2</sup> (millions)	Cars per 1,000 persons
Bulgaria.....	198	8.7	23
Czechoslovakia.....	1,225	14.7	83
East Germany.....	1,880	16.9	111
Hungary.....	409	10.5	39
Poland.....	920	33.8	27
Romania.....	155	21.1	7
Yugoslavia.....	1,532	21.2	72
Eastern Europe.....	6,349	126.9	50
U.S.S.R.....	3,782	253.0	15
France.....	14,550	52.4	278
West Germany.....	17,036	62.0	275
Italy.....	13,424	55.6	241
United Kingdom.....	13,498	56.1	240
United States.....	104,898	209.0	502

<sup>1</sup> U.S. Department of Commerce. "World Motor Vehicle Production and Registration," 1974-75, January 1976.

<sup>2</sup> Foreign Demographic Division, Bureau of Economic Analysis, U.S. Department of Commerce.

Demand is particularly high for cars made under Western license—Polski FIAT, Lada (Soviet FIAT), Zastava (Yugoslav FIAT), Dacia 1300 (Romanian Renault-12)—and they bring top prices. In Yugoslavia, Western cars assembled from imported parts are popular, and their market prices are kept relatively high by large tariffs in order that the locally made Zastavas will sell.

During the Western recession, following the Arab oil embargo, Eastern Europe found it difficult to export cars to the West. Supplies of more expensive cars built up in Eastern Europe, and in some cases prices were lowered, while in others bank financing was offered in order to bring more purchasers into the market.

### C. Outlook for Private Ownership

A question has arisen as to whether East European countries will reduce their plans to expand automobile ownership because of rising world fuel prices and the higher costs of importing fuel. In addition to increased deliveries of goods to the U.S.S.R. to pay for Soviet fuel, there are likely to be some hard currency costs for fuel required from the West above amounts that the Soviets have agreed to supply. Romania, which imports no Soviet oil and has recently changed from a net exporter to an importer of oil, may be facing particularly straitened circumstances.

East European regimes have not yet acknowledged a need to reduce plans for popular car sales because of fuel supply problems. It is not likely that a reduction in present levels of sales will take place and some growth will probably occur as ongoing capital investment programs in the auto industry mature into expanded production.

Because it is not important to the national economy that people use their cars in their occupations, rationing of fuel can be accomplished by merely allowing queues to form at the gas stations which are open to the public and by charging higher prices for gasoline.<sup>4</sup>

<sup>4</sup> Generally, private auto owners in Eastern Europe, as in Japan and much of Western Europe, do not use their cars as everyday conveniences. Public transportation will remain the principal means of getting about. Indeed, the percentage share accounted for by automobiles in urban passenger travel in Eastern Europe is probably comparable to the Japanese level (22 percent). Western European shares are higher than for Japan but substantially below the United States (95 percent).

Higher retail prices for gasoline seem not to have effected the eagerness of private persons to become car owners. Eventual ownership remains a goal for most East Europeans, and seems to be more possible every year. However, given the growing constraints on supplies of hard currencies and credit and the need for Western technology and equipment of all kinds, plans for new passenger car production facilities will probably have to be trimmed or delayed. The decision on the amount of trimming and delaying is an integral part of planning for the share of national income that can be allocated to satisfy consumer needs.

Evidence that national planners are concerned with consumer satisfaction is visible in their efforts to offer a variety of passenger car makes and models for popular sale. The assortments in Czechoslovakia and Hungary, for instance, include small numbers of French, Italian, German, and British cars in addition to all makes from the Communist countries.

## VI. ECONOMIC PROBLEMS SOLVED

The inability of the East European countries to satisfy regional needs for motor vehicle production from regional resources has a number of causes. Most importantly, the necessary production equipment, common vendor-supplied parts, and broadly diversified supporting industry is not available in Eastern Europe. The capability of the U.S.S.R. to supply these items is both insufficient to care for East European needs and not at the desired technological level.

Also significant are feelings about the importance of national sovereignty, which have kept the individual countries from supporting the role of the CEMA organization as an instrument to guide and coordinate the development of an integrated regional industry. Cooperation among the countries is of a bilateral nature and consists for the most part of agreements to exchange fixed amounts of parts and vehicles during specific periods.

### *A. Role of the Soviet Union*

The U.S.S.R. shares with its East European neighbors their lack of well developed supporting industries for motor vehicle production. Despite its nearly 50 years of experience in mass producing motor vehicles, the Soviet Union only recently (1971) began a serious program to expand the output of modern automotive production equipment. Presently, this program is confined to a few major types of equipment, mainly automatic transfer machine tool lines. Consequently, the U.S.S.R. is not an adequate source of production equipment. Neither is the U.S.S.R. a source of manufacturing engineering or advanced product design, for both of which the Soviets still rely on Western developments.

However, participation in major Soviet motor vehicle production programs has made it possible for all the participating East European countries to expand their automotive production activities economically. As shown in the following tabulation, each of these countries has established large-scale output for the U.S.S.R. of a small assortment of common motor vehicle components and accessories, most of

which could be adapted to other vehicles in addition to the Soviet VAZ products. The usual volume has been set at 300,000 sets of parts per year.

*Parts Purchased from Eastern Europe for Volga Motor Vehicle Plant (VAZ)*

Country and Parts:

Bulgaria—Batteries, generators, starters, regulators, coils, condensers, oil filters, and air filters.

Czechoslovakia—Carburetors and headlights.

East Germany—Headlights and dual horns.

Hungary—Radios, distributors, panel instruments, door locks, door handles, horns, wiper motors, tire gauges, and bulbs.

Poland—Headlights, backup lights, shock absorbers, circuit breakers, bulbs, direction indicators, and bumpers.

Yugoslavia—Batteries, radiator grilles, piston rings, electrical parts, switches, mirrors, axles, and steering wheels.

Romania—Does not participate.

In payment for these parts, the U.S.S.R. exports VAZ cars to Eastern Europe. The economic benefits for the East European countries are the widening of motor vehicle production activities to economically efficient size and the acquisition of passenger cars for popular motorization. For the U.S.S.R., a major benefit is the opportunity to use elsewhere the investment resources that otherwise would have gone into additional motor vehicle production facilities. The VAZ program has been so successful that a similar cooperative program has been organized for the Kama truck plant.

The East European countries vary considerably in the extent to which they cooperate with the U.S.S.R. Romania, whose industry initially produced Soviet trucks, jeeps, and cars from parts imported from the U.S.S.R., now apparently receives no Soviet help, provides no parts for the VAZ program and declined to build parts for Kama. Moreover, it does not participate in the production of other Communist designed vehicles. Because it produces MAN trucks under license, it buys some MAN engines from Hungary, but this is a Western-based technology exchange.

The Bulgarian industry, on the other hand is solidly linked to the U.S.S.R., not only because it assembles Soviet trucks and cars, principally from imported parts, but because it is expanding the output of major truck components as a vendor to the Soviet industry. It also produces heavy Skoda trucks with Czechoslovak assistance.

Figure 2 shows the pattern of international cooperation of Hungary's motor vehicle industry with both CEMA and Western countries. For example, Hungary has been selling MAN heavy rear axles to Czechoslovakia and receiving Praga hydromechanical transmissions for buses in return. A new contract between the Csepel Motor Vehicle Plant and the West German Zahnradfabrik will give Hungary the technology to produce the modern ZF automatic transmissions.

Except for installing bus bodies on Skoda chassis supplied by Czechoslovakia, and using old GAZ-20 chassis parts to produce vans, Poland's motor vehicle industry is based on modern Western technology. Consequently, Poland is able to supply complete Bendix-Westinghouse air brake systems for the Soviet Kama truck plant.

Czechoslovakia and East Germany have been struggling to maintain technologically independent motor vehicle industries but are finding the process difficult because of their limited resources. Neither is dependent on the U.S.S.R. for technology or parts, but both find a major market there for end products. They exchange passenger car parts with each other extensively but have not found it expedient to mutually standardize the major components of their cars. Czechoslovakia has accepted help in light truck production from Saviem, a subsidiary of Renault. East Germany has avoided foreign help with product design, but it has received manufacturing engineering assistance and production equipment from Western firms among whom Renault is prominent. Both countries are now concerned with modernization of product to maintain Western sales, and both are finding it difficult to mobilize the necessary hard currency to pay for Western technology and equipment.

### *B. Paying for Western Technology*

The difficult problem of payment for Western production equipment in hard currencies is usually solved by the East European producer selling back part of his product to the technology supplier. A typical example of such an arrangement, is the agreement between Poland and Steyr-Daimler-Puch of Austria, whereby Poland's Jelcz plant obtained a license to produce the new series of heavy Steyr trucks and diesel engines, plus technological help in establishing a heavy truck diesel engine plant at Wola.

Up to 1980, Steyr will supply Poland with components, licenses and documentation worth \$100 million and new trucks worth \$70 million. From 1980 to 1990, Steyr is obligated to buy back Jelcz-produced trucks and engines worth \$289 million. Initial credit in the amount of \$239 million was provided to the Bank Handlowy w Warszawie by the Creditanstalt Bankverein and guaranteed by the Austrian state Kontrollbank.

In this typical transaction, Poland received the most modern heavy truck engine technology, help in establishing production of the engines, and help in overcoming a shortage of hard currency. Poland has similar deals with Berliet (France) on buses; Volvo and Kochums (Sweden) on trucks; Leyland (UK), Perkins (UK) and Henschel (West Germany) on diesel engines; Massey-Ferguson (UK) on tractors; Westinghouse (UK) on air brake systems; etc. This buy-back process was present in the establishment of MAN truck technology in Hungary and Romania and in establishing Daimler-Benz and Magirus-Deutz technology in Yugoslavia.

Czechoslovakia's Skoda, Tatra and Praga firms present an alternative source of product design and production engineering within Eastern Europe. However, if Poland, Romania, and Hungary had adopted Czechoslovak technology they would not have generated the hard currency they needed to pay for the production equipment that was only obtainable in the West. Principal agreements between East European and Western firms for cooperation and assistance in motor vehicle production are listed in table 6.

The factors impelling East European countries to turn to the West for passenger car technology also include the need for sales to the

West to pay for production equipment. Thus, Romania pays for tooling, imported parts, and technical assistance for producing the Dacia-1300 (Renault-12) by producing transmissions for Renault vans. The same arrangements figure in the agreements that FIAT has with Poland and Yugoslavia under which these countries produce FIAT passenger cars.

However, there are other advantages to using Western technology. First, the Western products were developed to compete in world markets and are already being sold and serviced throughout the world. Thus, they have a built-in advantage as export products. Secondly, the parent companies are engaged in intensive competition and can be counted on to continually improve their designs. Finally, the parent companies, being large, free enterprise firms, can be counted on as suppliers of any materials and components which the East European countries find difficult to provide domestically.

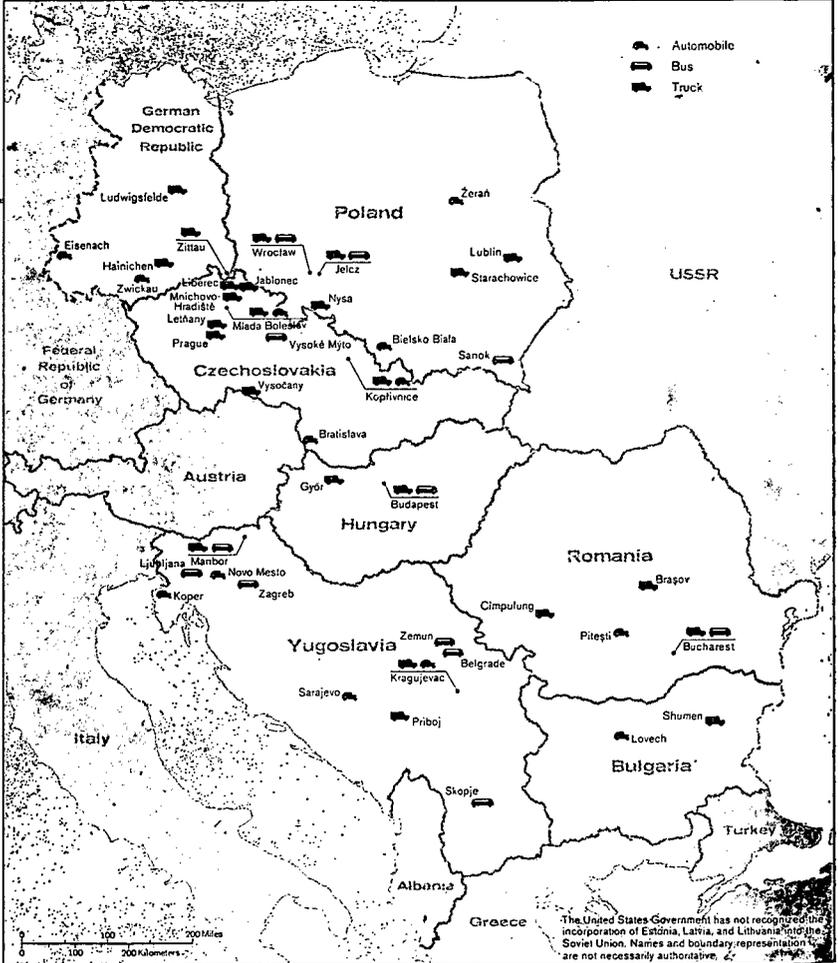
FIAT's assistance to Poland, Yugoslavia, and the U.S.S.R. has ramifications beyond its effect on these countries. In addition to the exchange of FIAT parts bilaterally among these three, FIAT technology is the basis of trade in FIAT parts between Yugoslavia and Egypt, Poland and Ireland, Hungary and Poland, etc. And they all exchange parts with the FIAT home production facility in Turin, Italy.

The difficulties of reaching economical production volumes are being solved by Poland and Yugoslavia through coproduction programs requiring international specialization in the production of FIAT parts. Because Hungary produces FIAT parts for the U.S.S.R., it is able to contract to supply FIAT parts to Poland and take remuneration in Polski-FIATs. (Hungary even exports FIAT parts to Turin.) One might note that in 1974, 36 percent of all cars produced in Eastern Europe were FIAT models. This share has since increased with the growth of passenger car production in Poland and Yugoslavia. If East Germany chooses FIAT technology to replace the outmoded pre-WWII DKW technology now used in its passenger cars, there will be another substantial increase in the share of the "FIAT Club" in total East European passenger car output.

Cooperation with Western firms has allowed the East European motor vehicle industries to expand rapidly, despite major gaps in their domestic supporting industries. Today, these countries participate in the production of a wide assortment of trucks and passenger cars. Their contributions to production from domestic sources are growing and strengthening the import substitution value of their industries.

The rapid introduction into production of the large assortment of types and sizes of trucks, buses, and passenger cars now produced throughout Eastern Europe was possible only with Western technology and equipment. It could not have happened on the basis of East European and Soviet industrial resources and knowhow. A further expansion of cooperational programs with Western firms can be expected. Several major assistance agreements are now in negotiation. Their success will depend only on the ability of East European countries to finance hard currency payments for licenses and equipment.

Principal Automotive Plants of Eastern Europe



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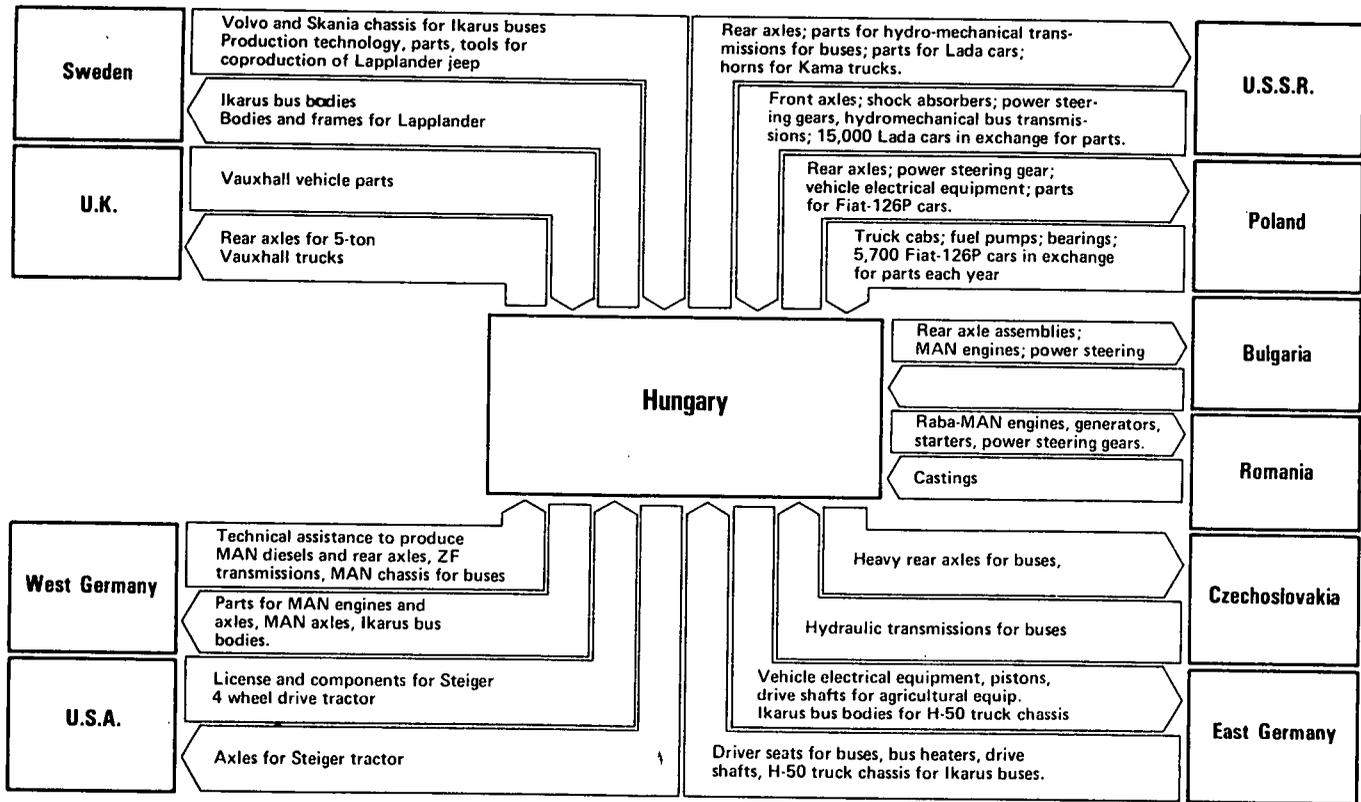


Figure 2. International Cooperation in Hungary's Motor Vehicle Industry

TABLE 1.—EASTERN EUROPE AND U.S.S.R.: MOTOR VEHICLE PRODUCTION, SELECTED YEARS

[In thousands]						
Country	1950	1960	1965	1970	1974	1975
<b>Passenger cars:</b>						
Eastern Europe.....	71	227	246	477	704	766
Bulgaria.....	0	0	0	8	12	12
Czechoslovakia.....	14	56	78	143	169	175
East Germany.....	7	64	103	127	150	165
Hungary.....	0	0	0	0	0	0
Poland.....	0	13	26	65	143	173
Romania.....	0	1	4	24	54	58
Yugoslavia.....	0	10	36	111	171	183
U.S.S.R.....	65	139	201	352	1,119	1,201
<b>Commercial vehicles:</b>						
Eastern Europe.....	10	71	96	175	224	240
Bulgaria.....	0	0	0	3	7	7
Czechoslovakia.....	7	17	13	27	32	36
East Germany.....	1	11	15	27	34	35
Hungary.....	(1)	5	6	10	12	12
Poland.....	1	21	34	53	80	85
Romania.....	0	11	16	38	36	42
Yugoslavia.....	1	5	12	17	23	23
U.S.S.R.....	298	385	415	570	727	763

<sup>1</sup> Negligible.

TABLE 2.—EASTERN EUROPE: MOTOR VEHICLE REGISTRATIONS BEGINNING 1975

[In thousands]			
Country	Passenger cars	Trucks and buses	Total
Eastern Europe.....	6,349	(1)	(1)
Bulgaria. <sup>2</sup> .....	198	43	241
Czechoslovakia. <sup>2</sup> .....	1,255	274	1,529
East Germany. <sup>2</sup> .....	1,880	322	2,202
Hungary. <sup>2</sup> .....	409	167	576
Poland. <sup>2</sup> .....	920	435	1,355
Romania. <sup>2</sup> .....	155	(1)	(1)
Yugoslavia. <sup>2</sup> .....	1,532	178	1,710
U.S.S.R. <sup>2</sup> .....	3,782	4,506	8,288

<sup>1</sup> Not available.

<sup>2</sup> From "World Automotive Market 1976," 46th edition (Johnson International Publishing Corp., New York), quoting original statistics of the countries concerned.

<sup>3</sup> Tatsachen und Zahlen aus der Kraftverkehrswirtschaft—40. Folge 1976 (Verband der Automobilindustrie e. V., Frankfurt a.M.).

<sup>4</sup> Not including 212,313 tractors for towing trailers.

<sup>5</sup> Główny Urząd Statystyczny, Warszawa: "Rocznik Statystyczny", 1976.

<sup>6</sup> Planovane gospodarstvi No. 12, 1975, p. 79.

<sup>7</sup> Biro Proizvodaca Motornih Vozila.

<sup>8</sup> Not including 75,000 tractors for towing trailers.

TABLE 3A.—EASTERN EUROPE: CHARACTERISTICS OF MOTOR VEHICLES IN PRODUCTION, 1975—PASSENGER CARS

Country and city	Plant	Model	Number of passengers	Engine		
				Displacement (cc)	Number of cylinders	Stokes in cycle
Bulgaria: Lovech	Balkan Plant	Moskvich (U.S.S.R.)	4	1,400	4	4
Czechoslovakia:						
Mlada Boleslav	AZNP, Mlada Boleslav	Skoda S-110	4	988	4	4
Koprivnice	Tatra National Enterprise	Tatra 613	6	3,495	8	4
East Germany:						
Eisenach	VEB Automobilwerke	Wartburg	5	1,000	3	2
Zwickau	VEB Sachsenring Automobilwerke	Trabant	4	600	2	2
Poland:						
Zeran (Warsaw)	FSO Plant	FIAT-125P	5	1,500	4	4
Bielsko-Biala	FSM Plant	FIAT-126P	4	594	2	4
Do	do	Syrena	4	842	3	2
Romania: Pitesti	Pitesti Plant	Dacia (Renault-12)	4	1,289	4	4
Yugoslavia:						
Kragujevac	Crvena Zastava	Zastava (FIAT)	4	770	2	4
Do	do	do	4	1,330	4	4
Novo Mesto	IMV	Renault-12TL <sup>1</sup>	4	1,289	4	4
Sarajevo	UNIS (TAS)	Volkswagen <sup>1</sup>	4	( <sup>2</sup> )	4	4
Koper	Cimos	Citroen <sup>1</sup>	4-5	( <sup>2</sup> )	4	4

<sup>1</sup> Assembled from CKD kits.<sup>2</sup> Several.

TABLE 3B.—EASTERN EUROPE: CHARACTERISTICS OF MOTOR VEHICLES IN PRODUCTION, 1975—TRUCKS

Country and city	Plant	Model	Payload (metric tons)	Wheel formula	Engine		
					Fuel	Horsepower	Cooling
Bulgaria:							
Shumen	Madara Plant	GAZ (Sov.) <sup>1</sup>	3.5	4 x 2	Gasoline	115	Water
Do	do	Madara (Skoda)	8-10	4 x 2	Diesel	210	Do.
Czechoslovakia:							
Koprivnice	Tatra National Corp.	Tatra-148	15-16	6 x 4	do	232	Air
Do	do	Tatra-813	22	8 x 8	do	270	Do.
Jablonec nad-Nisou	LIAZ National Corp.	Skoda-100.00	7.7	4 x 2	do	304	Water
Vysocany	Praga National Corp.	Praga V3S	6	6 x 6	do	98	Air
Letnany	Avia National Corp.	Avia A (Saviem)	1.5-3.0	4 x 2	Gasoline	72-80	Water
East Germany:							
Ludwigsfelde	VEB IFA-Automobilwerke	W-50	5	4 x 2	Gasoline or diesel	125	Do.
Karl-Marx-Stadt	VEB Barkaswerke	Barkas B-100	1	4 x 2	Gasoline	42	Do.
Zittau	VEB Robur-Werk	L-3000	3	4 x 2	do	75	Do.
Hungary:							
Gyor	Raba-MAVAG	Raba-MAN	7	4 x 2	Diesel	192	Do.
Do	do	do	15	6 x 4	do	230	Do.
Budapest	Csepel	Csepel-556	5	6x6	Diesel	200	Do.
Poland:							
Jelcz	JZS Plant	Jelcz-316	10	6 x 4	do	200	Do.
		Jelcz-5420	8	4 x 2	do	243	Do.
		Jelcz-640 (Steyr)	18	6 x 4	do	320	Do.
Stavachowice	FSC Plant	Star-200	6	4 x 2	do	150	Do.
Do	do	Star-660	2.5	6 x 6	do	105	Do.
Do	do	Star-266	3.5	6 x 6	do	150	Do.
Nysa	FSD Plant	Nysa-Van	1	4 x 2	Gasoline	70	Do.
Lublin	FSC Plant	Zuk-Van	1	4 x 2	do	70	Do.
Romania:							
Brasov	Steagul Rosu	Bucegi	5	4 x 2	Gasoline or diesel	140	Do.
Do	do	Roman (MAN)	8	4 x 2	Diesel	120-140	Do.
Do	do	Roman (MAN)	10	6 x 4	do	135	Do.
Cimpulung	Muscel Mechanical Works	ARO (Jeep)	1/4	4 x 4	Gasoline	80	Do.
Bucharest	Autobuzul	TV-12	1 1/4	4 x 2	do	80	Do.
Yugoslavia: <sup>3</sup>							
Maribor	TAM	Magirus-Deutz	up to 26	6 x 4	do	( <sup>4</sup> )	Air
Priboj na Limu	FAP	Mercedes LP1113B	8	4 x 2	do	130	Water
Novo Mesto	IMV	Renault	1-2	4 x 2	Gasoline	60	Do.
Kragujevac	Crvena Zastava	ZCZ	3.5-4	4 x 2	(OM (FIAT)-Leonchino Model)		

<sup>1</sup> Assembled from CKD kits.<sup>2</sup> Also available as 6 x 6 and 4 x 4.<sup>3</sup> All Yugoslav trucks contain substantial amounts of imported parts.<sup>4</sup> Up to 232.

TABLE 4.—EASTERN EUROPE: TRADE IN AUTOMOTIVE PRODUCTS WITH THE U.S.S.R., 1965-75<sup>1</sup>

Year	Cars (units)	Trucks (units)	Buses (units)	Unassembled cars and trucks (units)	Parts and components (million rubles)	Total (million rubles)
<b>Imports:</b>						
1965	29,798	5,313	302	0	33.7	86.0
1966	39,274	13,436	944	0	35.2	136.3
1967	49,640	17,185	584	0	51.6	171.9
1968	64,156	13,765	364	0	58.3	184.2
1969	55,781	13,142	164	3,200	62.4	195.0
1970	64,994	16,658	247	5,656	73.6	225.7
1971	129,415	13,769	280	9,374	96.4	317.9
1972	155,147	13,165	394	11,001	113.3	367.2
1973	185,614	13,499	429	13,220	130.1	425.6
1974	225,251	11,536	532	17,969	137.5	502.8
1975	215,211	18,207	448	3,000	166.1	580.8
<b>Exports:</b>						
1965	1,463	2,384	600	0	49.5	97.4
1966	41	1,806	804	0	54.0	87.7
1967	1	1,865	1,021	0	63.4	99.1
1968	10	4,853	2,825	0	65.9	122.3
1969	0	7,631	3,476	0	72.7	143.9
1970	0	5,152	4,934	0	87.1	183.4
1971	0	10,869	6,038	0	107.0	218.4
1972	0	14,991	7,243	0	133.1	308.5
1973	0	12,056	7,907	0	144.2	333.5
1974	0	6,200	8,018	0	154.3	322.3
1975	0	5,008	9,597	0	179.7	406.7

<sup>1</sup> Foreign Trade, U.S.S.R., for 1975, Moscow, 1976.TABLE 5.—EASTERN EUROPE; TRADE IN MOTOR VEHICLES BY COUNTRY, SELECTED YEARS 1960-74<sup>1</sup>

	[Units]							Eastern Europe total
	Bulgaria	Czechoslo- vakia	East Germany	Hungary	Poland	Romania	Yugo- slavia	
<b>IMPORTS</b>								
<b>1960:</b>								
Cars	3,286	13,278	6,231	5,887	5,824	1,186	6,990	42,682
Trucks	5,100	3,339	461	4,084	1,440	165	814	15,403
Buses	286	3	828	18	496	151	140	1,922
<b>1965:</b>								
Cars	11,700	15,339	20,611	11,719	21,095	11,880	13,049	105,393
Trucks	5,573	3,668	923	2,226	1,951	449	1,544	16,334
Buses	574	362	1,002	47	1,563	127	50	3,725
<b>1970:</b>								
Cars	23,616	41,835	47,061	48,993	16,492	11,451	56,000	245,448
Trucks	7,256	3,259	6,493	16,096	7,582	578	3,550	44,881
Buses	1,467	825	1,811	1,658	294	396	128	6,552
<b>1973:</b>								
Cars	52,034	95,394	69,144	80,713	47,326	1,293	39,000	384,904
Trucks	11,234	4,253	6,579	15,544	9,076	153	5,000	51,839
Buses	1,126	144	4,484	614	1,024	515	20	7,927
<b>1974:</b>								
Cars	63,058	94,708	94,941	89,178	24,573	2,598	52,176	421,242
Trucks	12,682	4,391	3,809	17,754	8,388	292	2,393	49,709
Buses	1,049	742	1,640	1,077	1,097	456	46	6,107
<b>EXPORTS</b>								
<b>1960:</b>								
Cars	1	30,536	11,515	0	3,379	0	0	45,697
Trucks	0	7,363	5,573	2,720	2,188	555	0	18,462
Buses	0	830	166	1,192	1	0	0	2,266
<b>1965:</b>								
Cars	63	49,195	36,448	0	5,484	348	6,170	97,708
Trucks	0	6,302	6,551	2,327	4,753	2,546	1,052	23,531
Buses	0	168	310	2,173	0	0	91	2,742
<b>1970:</b>								
Cars	462	73,909	56,178	0	23,837	5,405	2,494	162,249
Trucks	0	8,562	9,645	1,491	8,040	9,452	181	37,371
Buses	0	678	249	4,745	1,115	0	12	6,799
<b>1973:</b>								
Cars	0	111,226	70,765	0	47,600	32,520	8,000	270,111
Trucks	173	11,723	21,646	200	13,304	7,878	250	55,174
Buses	0	625	476	6,792	5,118	0	1,000	14,011
<b>1974:</b>								
Cars	0	76,373	75,071	0	58,940	24,201	8,234	242,819
Trucks	69	9,558	24,486	529	14,427	5,697	250	55,016
Buses	0	529	453	7,704	5,410	0	713	14,809

<sup>1</sup> "Statistical Yearbook, Council for Mutual Economic Assistance, 1975" Moscow, U.S.S.R.

TABLE 6.—EASTERN EUROPE: AGREEMENTS WITH WESTERN FIRMS FOR COOPERATION AND ASSISTANCE IN MOTOR VEHICLE PRODUCTION

Year and country	Western partner	Type of agreement
1967—Bulgaria	Massey-Ferguson, United Kingdom	License and technical assistance to produce Perkins diesel engines.
1967—Czechoslovakia	Renault, France	Technology, equipment, and license to build Saviem light trucks.
1968—Czechoslovakia	FIAT, Italy	Technical cooperation in automotive production.
1968—Hungary	Steyr-Daimler-Puch, Austria	Technical cooperation and joint production of trucks and buses.
1970—Hungary	Volvo, Sweden	Joint production of buses.
Do	M.A.N., West Germany	Joint production of diesel trucks.
1974—Hungary	Volvo, Sweden	Joint production of civilian jeeps.
1975—Hungary	General Motors, U.S., Oversea Division	Technical cooperation and trade in components and vehicles.
Do	Steiger Tractor, United States	Coproduction of large all-wheel-drive farm tractors.
1976—Hungary	Zahnrad Fabrik, West Germany	Automatic torque converter transmission technology.
1965—Poland	FIAT, Italy	Technology, equipment, and license to build FIAT-125 cars.
Do	Leyland, United Kingdom	License to build Leyland diesel engines for trucks.
1966—Poland	Henschel, West Germany	Technology to produce heavy automotive diesel engines.
1971—Poland	FIAT, Italy	Technology, equipment, and license to build FIAT-126 cars.
1972—Poland	Steyr-Daimler-Puch, Austria	Joint production of diesel trucks.
Do	Berliet, France	Joint production of city buses.
1975—Poland	Massey-Ferguson, United Kingdom	License, technical assistance and production equipment to produce Perkins diesel engines.
1966—Romania	Renault, France	Technology, equipment, and license to build Renault cars and Saviem diesel engines.
1971—Romania	M.A.N., West Germany	Joint production of diesel trucks.
1954—Yugoslavia	FIAT, Italy	Technology, equipment, and licenses to build FIAT cars in various models.
1957—Yugoslavia	Kloekner-Humboldt-Deutz, West Germany	Joint production of KHD diesel trucks.
1969—Yugoslavia	Daimler-Benz, West Germany	Joint production of trucks and buses.
1971—Yugoslavia	Renault, France	License and technical assistance in production of cars.
1973—Yugoslavia	Volkswagen, West Germany	License and technical assistance in passenger car production.
1974—Yugoslavia	FIAT, Italy	Joint production of FIAT medium trucks.

# POPULATION ESTIMATES AND PROJECTIONS FOR EASTERN EUROPE: 1950 TO 2001

BY GODFREY BALDWIN\*

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## INTRODUCTION

This paper presents population projections by age and sex for the six Communist countries of Eastern Europe—Bulgaria, Czechoslovakia, East Germany, Hungary, Poland, and Romania. Population trends during the periods 1950 to 1975 and 1976 to 2001 are described briefly in the first two sections of the text. The sources, methods, and assumptions employed in making the projections are discussed in the final section. The text tables present the results of the projections in summary form, some derivative data, and figures relating to the fertility and mortality assumptions. Detailed results for the six countries combined and for each country individually are given in the appendix tables. Table I gives total population on January 1, and July 1, absolute numbers of births, deaths, and natural increase, and the corresponding rates per 1,000 population for each year of the period 1950 to 2000. Table II shows the projected distribution of the population by sex in 5-year age groups for every fifth year of the period 1976 to 2001. The numbers of persons by sex in the preschool, primary school, working, and retirement ages for every fifth year are given in tables III, IV, V, and VI, respectively.

## POPULATION TRENDS SINCE 1950

At the beginning of 1975 the six countries of Eastern Europe had an estimated population of 105,835,000, an increase of 17,769,000 or 20 percent over the total of 88,066,000 in 1950. The population of Eastern Europe grew at a slightly lower rate between 1950 and 1975 than did that of Europe as a whole (table 1). Among the four regions, Western Europe had the highest growth rate for the 25-year period and Northern Europe the lowest. Both of these regions experienced their highest rates during the late fifties and early sixties, whereas Eastern Europe grew most rapidly during the early fifties. The rates for Southern Europe were relatively stable throughout the period.

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TABLE 1.—TOTAL POPULATION, AVERAGE ANNUAL PERCENT CHANGE, AND VITAL RATES—EUROPE, 4 EUROPEAN REGIONS, AND 6 EASTERN EUROPEAN COUNTRIES: 1950 TO 1975

[Absolute numbers in thousands as of Jan. 1. Rates per 1,000 population. Figures may not add to totals due to rounding]

Type of data and year	Europe	Northern Europe <sup>1</sup>	Western Europe <sup>2</sup>	Southern Europe <sup>3</sup>	Eastern Europe						
					Total	Bulgaria	Czecho-slovakia	East Germany	Hungary	Poland	Romania
<b>Total population:</b>											
1950-----	390,691	72,250	121,879	108,497	88,066	7,228	12,340	* 18,388	9,293	24,613	16,204
1955-----	406,372	73,679	127,071	113,248	92,373	7,461	13,024	* 17,929	9,767	27,012	17,181
1960-----	423,438	75,563	133,828	117,736	96,313	7,829	13,608	* 17,114	9,961	29,480	18,319
1965-----	442,371	78,168	141,921	122,761	99,521	8,178	* 14,097	17,004	10,140	* 31,124	18,980
1970-----	457,850	80,190	147,524	127,431	102,706	8,464	* 14,309	17,075	10,322	* 32,397	20,140
1975-----	472,828	81,558	152,343	133,092	105,835	8,710	14,738	16,891	10,509	* 33,846	21,141
<b>Average annual percent change:</b>											
1950-55-----	0.8	0.4	0.8	0.9	1.0	0.6	1.1	-0.5	1.0	1.9	1.2
1955-60-----	.8	.5	1.0	.8	.8	1.0	.9	-.9	.4	1.8	1.3
1960-65-----	.9	.7	1.0	.8	.7	.9	.7	-.1	.4	1.1	.7
1965-70-----	.7	.5	.8	.8	.6	.7	.3	.1	.4	.8	1.2
1970-75-----	.6	.3	.9	.6	.6	.6	.6	-.2	.4	.9	1.0
1950-75-----	.8	.5	.9	.8	.7	.7	.7	-.3	.5	1.3	1.1
<b>Birth rate:</b>											
1950-----	20.5	17.2	18.3	21.9	24.4	25.2	23.3	16.5	20.9	30.7	26.2
1955-----	19.4	16.2	17.2	20.9	23.2	20.1	20.3	16.4	21.4	29.1	25.6
1960-----	18.8	17.3	17.9	20.8	18.8	17.8	15.9	17.2	14.7	22.6	19.1
1965-----	18.2	18.1	17.9	20.6	16.0	15.3	16.4	16.5	13.1	17.5	14.6
1970-----	16.5	16.0	15.2	18.2	16.8	16.3	16.0	13.9	14.7	16.8	21.1
1975-----	14.9	13.1	11.9	17.1	17.6	16.6	19.5	10.8	18.4	18.9	19.7
<b>Death rate:</b>											
1950-----	11.1	11.2	11.2	10.5	11.7	10.2	11.5	11.9	11.4	11.6	12.4
1955-----	10.5	11.0	11.2	9.7	10.1	9.0	9.6	12.0	10.0	9.6	9.7
1960-----	10.2	11.0	11.2	9.4	9.4	8.1	9.2	13.7	10.2	7.6	8.7
1965-----	10.2	11.1	11.1	9.3	9.4	8.1	10.0	13.5	10.7	7.4	8.6
1970-----	10.5	11.3	11.2	9.2	10.3	9.1	11.6	14.1	11.6	8.2	9.5
1975-----	10.5	11.3	11.1	9.1	10.6	10.3	11.5	14.3	12.4	8.7	9.3
<b>Natural increase rate:</b>											
1950-----	9.4	6.0	7.1	11.4	12.7	15.0	11.8	4.6	9.5	19.1	13.8
1955-----	8.9	5.2	6.0	11.2	13.2	11.1	10.7	4.4	11.4	19.5	15.9
1960-----	8.6	6.3	6.7	11.4	9.4	9.7	6.7	3.5	4.5	15.0	10.4
1965-----	8.0	7.0	6.8	11.3	6.6	7.2	6.4	3.0	2.4	10.0	6.0
1970-----	6.0	4.7	4.0	9.0	6.5	7.2	4.4	-.2	3.1	8.6	11.6
1975-----	4.4	1.8	.8	8.0	7.0	6.3	8.1	-3.5	6.0	10.2	10.4

<sup>1</sup> Includes Channel Islands, Denmark, Faeroe Islands, Finland, Iceland, Ireland, Isle of Man, Norway, Sweden, and United Kingdom.

<sup>2</sup> Includes Austria, Belgium, France, West Germany, Liechtenstein, Luxembourg, Monaco, Netherlands, and Switzerland.

<sup>3</sup> Includes Andorra, Albania, Gibraltar, Greece, Holy See, Italy, Malta, Portugal, San Marino, Spain, and Yugoslavia.

<sup>4</sup> Census of Aug. 31, 1950.

<sup>5</sup> Revised estimates to account for discrepancies between the official estimates and census results. See notes to tables I-C, I-D, and I-F.

Since 1970 there has been a significant decline in the growth rates for Northern and Western Europe and a slight rise in the rates for Southern and Eastern Europe (also see table I-A). The lower rates for the first two regions are due to much lower birth rates as well as less immigration from other areas. The increase for Southern Europe is the result of less outmigration whereas the rise for Eastern Europe is due to higher birth rates. The birth rate for Eastern Europe increased by 10 percent between 1965 and 1975 while the birth rates for Northern, Western, and Southern Europe declined by 28, 34, and 17 percent, respectively. Eastern Europe had the lowest birth rate of any of the four regions of Europe in 1965; by 1975 it had the highest rate. Its rate for 1975 was 48 percent greater than that for Western Europe, which had the lowest rate.

The crude death rate for Eastern Europe reached its low point during the 1960's and then rose gradually during the late 1960's and early 1970's. The rate for Southern Europe declined slightly between 1950 and 1975 while the rates for Northern and Western Europe remained at about the same level during the period. The natural increase rates for Southern and Eastern Europe were higher than those for the other two regions during most of the 25-year period. The 1975 rates for all four regions were considerably lower than the corresponding rates for 1950 and in Northern and Western Europe the 1975 birth rate was only slightly higher than the 1975 death rate.

The population of Eastern Europe represented 22 percent of the total European population in 1975 compared to 17 percent for Northern Europe, 28 percent for Southern Europe, and 32 percent for Western Europe. These percentages are only slightly different from the figures for 1950 (23, 18, 28, and 31 percent, respectively).

Among the six countries of Eastern Europe there was considerable variation in the rates of change. The average annual rates for Poland (1.3 percent) and Romania (1.1 percent) were much higher than the rates for Bulgaria (0.7 percent), Czechoslovakia (0.7 percent), and Hungary (0.5 percent). East Germany had a smaller population in 1975 than in 1950—due primarily to emigration, which was on a very large scale prior to the building of the Berlin Wall in 1961, and to a lesser degree to the fact that the number of deaths exceeded the number of births each year from 1969 through 1975.

The lower growth rates during the 1960's were primarily the result of birth rate declines which began during the 1950's and continued until the mid-1960's, amounting to 30 percent or more in all the East European countries except East Germany. The trends have varied during the past ten years but all of the countries except East Germany had higher rates in 1975 than in 1965.

For the region as a whole, the birth rate dropped from about 24 per 1,000 in 1950 to below 16 in 1966, rose to almost 18 in 1967, declined to 16 in 1972, then increased to almost 18 again in 1975 (table I-A). The increase in 1967 was due to the sharp rise in the birth rate of Romania which resulted from governmental action restricting abortions and the use of contraceptives. The birth rate in Romania was 27 per 1,000 in 1967, almost double the level of 14 in the previous year. After 1967 the rate declined steadily to 18 in 1973 and then rose again to 20 in 1974 and 1975. During the past several years the governments of Bulgaria, Czechoslovakia, and Hungary have also

instituted programs designed to increase fertility, and each of these countries has experienced a recent upturn in the birth rate. On the other hand, after East Germany liberalized its abortion laws in 1972, the birth rate fell to less than 11 per 1,000 in 1973, and remained at that level in 1974 and 1975. Fertility in 1975 was much lower in East Germany than in any of the other five countries, as is shown in the birth rates given in table 1 and the gross reproduction rates<sup>1</sup> given in table 5. The latter rates, which are not affected by differences in age structure, show that fertility is much lower in East Germany than in any of the other five countries.

Mortality also declined after 1950, but not as much as fertility. The death rate for Eastern Europe as a whole decreased from 12 per 1,000 in 1950 to 9 in the mid-1960's, then rose to 11 in 1975. The amount of decline after 1950 was not the same for every country. Poland and Romania experienced the largest declines; for example, in Poland the rate dropped from 12 per 1,000 in 1950 to 7 in 1965. In contrast, for Hungary the 1965 rate was only a little below the 1950 rate and for East Germany the 1965 rate was actually higher than the 1950 rate. The 1975 rates for all of the countries were higher than the corresponding rates for 1965.

The rate of natural increase for the entire region did not vary much during the early fifties, but declined from 13 per 1,000 in 1955 to 6 in 1966. The rate increased to 8 in 1967, decreased to 6 in 1973, then increased again to 7 in 1975. Rates for all six countries fell by more than 25 percent between 1950 and 1965, and those for Bulgaria, Hungary, and Romania dropped by more than 50 percent. Recent trends have varied: in Czechoslovakia, Hungary, and Romania, the natural increase rates were higher in 1975 than in 1965; in Bulgaria and East Germany, the rates were lower; and in Poland, the 1975 rate was about the same as the 1965 rate. In East Germany, the death rate exceeded the birth rate during 1975 by a margin larger than in any other major world country.

Since 1950, all six countries have experienced at least one period of significant net emigration, but East Germany was the only country where migration was the most important factor in population change. Net emigration from that country between 1950 and 1975 amounted to around 2.5 million persons, or more than 13 percent of the 1950 population. Practically all of this emigration occurred before the erection of the Berlin Wall in 1961. Emigration was significant for Bulgaria in 1950 and 1951 when part of the Turkish minority was expelled. There was significant emigration from Czechoslovakia in 1968 and 1969 as a result of the Soviet intervention during August 1968 and from Hungary in 1956 and 1957 as an aftermath of the revolt in late 1956. Poland and Romania had considerable emigration during much of the period, but the peak years were 1957 and 1958 for Poland and 1950 and 1951 for Romania.

The different rates of growth experienced by the six countries resulted in a change in population size ranking between 1950 and 1975. East Germany fell from second place in 1950 to third place in 1975, behind Romania. However, Poland had the largest population in both 1950 and 1975, and in the latter year its population of 33.8 million comprised 32 percent of the regional total.

<sup>1</sup> The gross reproduction rate is defined as the number of females that will be born to 100 women during their reproductive lifetimes if a given set of birth rates by age of mother remains in effect.

Selected age-sex characteristics in 1950, 1975, and 2000 are presented in table 4. Between 1950 and 1975 there was a striking shift toward the older age groups in Eastern Europe. For the region as a whole the proportion of the population under 15 years of age dropped from 26.7 to 23.3 percent and the proportion aged 65 and over jumped from 7.0 to 11.3 percent. Similar changes occurred in each of the six countries. East Germany, which had the lowest proportion under age 15 and the highest proportion aged 65 and over, showed a decline from 22.8 to 21.9 percent at ages 0 to 14 and a rise from 10.6 to 16.3 percent at age 65 and over. Poland and Romania had the highest proportions under age 15 and the lowest proportions in the older ages. For Poland the proportion aged 0 to 14 dropped from 29.4 to 24.1 percent and for Romania it decreased from 28.4 to 25.2 percent. In both countries the proportion aged 65 and over increased from about 5.3 to about 9.4 percent during the 25-year period.

The working age population represented approximately two-thirds of the total Eastern European population in 1950 and 1975. All six countries also had about the same proportion aged 15 to 64 in 1950 and only East Germany showed any significant change between 1950 and 1975. For East Germany the proportion aged 15 to 64 declined from 66.6 to 61.9 percent. Within the working ages there was a shift from the younger ages (15 to 39) to the older ages (40 to 64) in Bulgaria, Hungary, and Romania. The shift was in the opposite direction in East Germany. There the proportion aged 15 to 39 rose from 31.0 to 35.6 percent and the proportion aged 40 to 64 dropped from 35.6 to 26.3 percent. For the region as a whole the proportions were about the same in both 1950 and 1975.

The aging of the population between 1950 and 1975 is clearly evident in the increases in median ages. For the region the median age rose from 28.7 to 31.5 years and all of the countries except East Germany also had higher median ages in 1975. The median age for East Germany declined from 37.3 to 35.1 years, but its 1975 figure was still the highest for any of the six countries.

The number of males per 100 females increased in every country but Bulgaria. The increase for East Germany was especially large, from 79.8 in 1950 to 86.5 in 1975. As a result of heavy military losses during World War II, East Germany had the lowest sex ratio in Eastern Europe. Bulgaria had the highest sex ratios, almost 100 in both 1950 and 1975.

For most of the countries the dependency ratio in 1975 was not very different from that in 1950. Only in East Germany, where the ratio increased from 502 to 617, was there any significant change.

#### FUTURE TRENDS OF THE POPULATION

According to the projections presented here, the population of Eastern Europe is expected to number between 116 million and 130 million by the year 2001 (table 2). The principal determinant of the size of the future population will be the trend in fertility. Four fertility trends are postulated for these projections: high, medium, low, and constant. The amount of population growth expected during the period 1976-2001 is about the same for the medium and constant series. Both show absolute increases of about 17 million and both series indicate an average annual growth rate of 0.6 percent for the

TABLE 2.—PROJECTED TOTAL POPULATION AND AVERAGE ANNUAL PERCENT CHANGE—6 EASTERN EUROPEAN COUNTRIES: 1976 TO 2001

[Absolute numbers in thousands as of Jan. 1. Figures may not add to totals due to rounding. See text for an explanation of the series]

Country and series	1976	1981	1986	1991	1996	2001	Average annual percent change					
							1976-81	1981-86	1986-91	1991-96	1996-2001	1976-2001
Eastern Europe:												
High.....	106,521	111,530	116,093	120,364	124,879	129,985	0.9	0.8	0.7	0.7	0.8	0.8
Medium.....		110,531	114,009	117,076	120,157	123,230	.7	.6	.5	.5	.5	.6
Low.....		103,474	111,833	113,736	115,392	116,544	.5	.4	.3	.3	.2	.4
Constant.....		110,605	114,135	117,270	120,482	123,772	.8	.6	.5	.5	.5	.6
Bulgaria:												
High.....	8,734	9,156	9,478	9,770	10,100	10,489	.9	.7	.6	.7	.8	.7
Medium.....		9,032	9,295	9,483	9,697	9,906	.7	.5	.4	.4	.4	.5
Low.....		8,967	9,111	9,206	9,296	9,339	.5	.3	.2	.2	.1	.3
Constant.....		9,032	9,236	9,490	9,701	9,912	.7	.5	.4	.4	.4	.5
Czechoslovakia:												
High.....	14,857	15,550	16,134	16,683	17,320	18,136	.9	.7	.7	.8	.9	.8
Medium.....		15,444	15,909	16,311	16,758	17,288	.8	.6	.5	.5	.6	.6
Low.....		15,261	15,550	15,784	16,019	16,247	.5	.4	.3	.3	.3	.4
Constant.....		15,459	15,933	16,426	16,962	17,623	.8	.6	.6	.6	.8	.7
East Germany:												
High.....	16,820	16,863	17,008	17,253	17,520	17,807	.1	.2	.3	.3	.3	.2
Medium.....		16,734	16,730	16,797	16,837	16,894	-.1	0	.1	.1	0	0
Low.....		16,655	16,533	16,446	16,338	16,143	-.2	-.1	-.1	-.1	-.2	-.2
Constant.....		16,646	16,499	16,371	16,213	15,959	-.2	-.2	-.2	-.2	-.3	-.2
Hungary:												
High.....	10,572	10,978	11,270	11,502	11,790	12,195	.8	.5	.4	.5	.7	.6
Medium.....		10,850	11,048	11,170	11,326	11,530	.5	.3	.2	.3	.4	.3
Low.....		10,742	10,826	10,838	10,854	10,892	.3	.2	0	0	0	.1
Constant.....		10,860	11,049	11,172	11,330	11,536	.5	.3	.2	.3	.4	.3
Poland:												
High.....	34,185	36,517	38,720	40,635	42,435	44,433	1.3	1.2	1.0	.9	.9	1.1
Medium.....		36,087	37,866	39,333	40,638	41,936	1.1	1.0	.8	.7	.6	.8
Low.....		35,657	37,012	38,031	38,845	39,487	.8	.7	.5	.4	.3	.6
Constant.....		36,083	37,851	39,302	40,585	41,853	1.1	1.0	.8	.6	.6	.8
Romania:												
High.....	21,353	22,496	23,483	24,521	25,714	26,925	1.0	.9	.9	1.0	.9	.9
Medium.....		22,344	23,162	23,976	24,871	25,675	.9	.7	.7	.7	.6	.7
Low.....		22,192	22,841	23,431	24,031	24,446	.8	.6	.5	.5	.3	.5
Constant.....		22,495	23,477	24,508	25,691	26,888	1.0	.9	.9	.9	.9	.9

1 The above figures for Jan. 1, 1976, are based on the most recent data available; they are somewhat different from the projected figures for Jan. 1, 1976, given in tables I and II.

25-year period. The high series implies an absolute increase of more than 23 million and a growth rate of 0.8 percent, whereas the low series postulates an increase of only 10 million and a growth rate of only 0.4 percent.

Among the individual countries, Poland is expected to have the largest growth. The medium series projection for that country indicates an average annual growth rate of 0.8 percent between 1976 and 2001, compared to 0.7 percent for Romania, 0.6 percent for Czechoslovakia, 0.5 percent for Bulgaria, and 0.3 percent for Hungary. According to the medium series, East Germany will have almost the same number of people at the end of the century as in 1976. These varying growth rates are expected to produce only one change in the size ranking of the six countries—East Germany will drop from third place to fourth place and Czechoslovakia will move up to third sometime during the late 1990's.

Generally, the growth rates for the individual countries and for the region are expected to be lower between 1986 and 2001 than between 1976 and 1986, due largely to the gradual aging of the population, which tends to raise the crude death rate and lower the crude birth rate. For example, the medium series for Eastern Europe as a whole shows an average annual growth rate of 0.7 percent for the earlier period as compared to 0.5 percent for the later period. Corresponding figures for the other series are 0.9 and 0.8 percent for the high series, 0.5 and 0.3 percent for the low series, and 0.7 and 0.5 percent for the constant series. East Germany is the exception to this general trend—for that country the rates for the medium and high series are higher after 1986 than between 1976 and 1986 and the rates for the low and constant series are about the same during both periods.

Since migration is assumed to be negligible after 1975 for all six countries, the projected growth rate is simply the difference between the birth rate and the death rate. The projected birth, death, and natural increase rates for 1976, 1980, 1990, and 2000 are shown in table 3. The birth rates are generally more variable than the death rates. The crude birth rate depends not only on the assumed level of fertility but also on the age-sex structure of the population, with the most crucial factor being the proportion of women in the prime reproductive ages. For the region as a whole, the percent of women in the age group from 20 to 29 years—the ages of highest fertility—is expected to increase from 15.3 percent in 1975 to around 16.3 percent in 1979, decrease to below 13.5 percent in the early nineties, and then increase to almost 14.0 percent by the end of the century. These changes are reflected in the projected trends in the birth rates. All except the low series show a small rise in the birth rate during the late 1970's, followed by a sustained decline until the early 1990's, and then a small increase during the late 1990's.

The trends for the individual countries vary considerably depending on the assumed level of fertility and on the age-sex structure. The birth rate is likely to increase during the next few years in East Germany and Poland, and the rate for East Germany should continue upward until the mid-1980's. Declining birth rates are expected for both countries during the eighties and continuing on into the nineties. In Bulgaria, Czechoslovakia, Hungary, and Romania, the birth rate is expected to decrease during the next several years. It should reach

TABLE 3.—PROJECTED VITAL RATES—6 EASTERN EUROPEAN COUNTRIES: 1976 TO 2000

[Rates per 1,000 population; see text for an explanation of the series]

Rate, series, and year	Eastern Europe	Bulgaria	Czechoslovakia	East Germany	Hungary	Poland	Romania
<b>Birth:</b>							
<b>High:</b>							
1976.....	19.2	18.7	20.7	12.6	19.7	21.0	20.1
1980.....	19.1	18.1	19.6	14.2	18.6	21.5	19.4
1990.....	17.3	16.8	17.3	15.4	15.8	17.7	19.0
2000.....	18.6	18.8	19.9	15.2	19.0	18.8	19.2
<b>Medium:</b>							
1976.....	17.6	17.0	19.7	11.5	17.9	19.1	19.1
1980.....	17.5	16.4	18.4	12.7	16.8	19.4	18.1
1990.....	15.6	15.0	15.7	13.6	14.1	15.9	17.2
2000.....	15.7	15.6	16.9	12.4	15.9	15.9	16.4
<b>Low:</b>							
1976.....	16.2	15.3	17.7	10.9	16.1	17.2	18.0
1980.....	15.8	14.6	16.4	11.7	15.0	17.4	16.9
1990.....	13.7	13.2	13.8	11.8	12.4	14.0	15.4
2000.....	12.7	12.5	13.7	9.9	12.9	13.0	13.5
<b>Constant:</b>							
1976.....	17.8	17.0	19.7	10.8	17.9	19.1	20.1
1980.....	17.6	16.4	18.7	11.5	16.8	19.4	19.4
1990.....	15.7	15.1	16.5	11.3	14.2	15.8	19.0
2000.....	16.0	15.7	18.4	9.2	16.0	15.8	19.1
<b>Death:</b>							
<b>High:</b>							
1976.....	10.4	10.0	11.4	13.5	12.1	8.5	9.5
1980.....	10.5	10.4	11.4	13.7	12.0	8.7	9.7
1990.....	10.2	10.8	10.6	12.3	11.7	8.7	9.8
2000.....	10.2	11.0	10.1	11.5	11.6	9.2	10.1
<b>Medium:</b>							
1976.....	10.4	10.0	11.4	13.6	12.0	8.5	9.4
1980.....	10.5	10.4	11.4	13.7	12.1	8.8	9.7
1990.....	10.4	11.0	10.8	12.6	11.9	8.9	10.0
2000.....	10.6	11.6	10.6	12.0	12.1	9.6	10.5
<b>Low:</b>							
1976.....	10.3	10.0	11.4	13.6	12.0	8.5	9.4
1980.....	10.6	10.5	11.5	13.8	12.1	8.8	9.7
1990.....	10.6	11.3	11.1	12.8	12.2	9.2	10.1
2000.....	11.2	12.2	11.2	12.5	12.7	10.1	10.9
<b>Constant:</b>							
1976.....	10.4	10.0	11.4	13.6	12.0	8.5	9.5
1980.....	10.5	10.4	11.4	13.8	12.1	8.8	9.7
1990.....	10.4	11.0	10.8	12.9	11.9	9.0	9.8
2000.....	10.6	11.6	10.4	12.6	12.1	9.6	10.1
<b>Natural increase:</b>							
<b>High:</b>							
1976.....	8.8	8.7	9.3	-.9	7.6	12.5	10.7
1980.....	8.6	7.7	8.2	.5	6.6	12.7	9.7
1990.....	7.2	6.0	6.6	3.1	4.1	9.0	9.2
2000.....	8.4	7.8	9.8	3.7	7.5	9.7	9.0
<b>Medium:</b>							
1976.....	7.3	7.0	8.2	-2.1	5.9	10.6	9.7
1980.....	7.0	5.9	7.0	-1.0	4.7	10.7	8.5
1990.....	5.2	4.0	4.8	1.0	2.2	7.0	7.3
2000.....	5.0	4.1	6.4	.4	3.8	6.3	5.9
<b>Low:</b>							
1976.....	5.8	5.3	6.2	-2.7	4.1	8.7	8.6
1980.....	5.2	4.1	4.9	-2.1	2.9	8.5	7.2
1990.....	3.1	1.9	2.7	-1.0	.1	4.8	5.3
2000.....	1.6	.4	2.6	-2.6	.2	2.9	2.6
<b>Constant:</b>							
1976.....	7.4	7.0	8.3	-2.7	5.9	10.6	10.7
1980.....	7.1	6.0	7.3	-2.2	4.7	10.6	9.7
1990.....	5.3	4.1	5.7	-1.6	2.2	6.9	9.1
2000.....	5.4	4.1	8.0	-3.5	3.9	6.2	8.9

its low point about 1985 in Romania and around 1990 in Bulgaria, Czechoslovakia, and Hungary. A rise in the rate is indicated for the last three countries between 1990 and 2000. The rate for Romania is likely to increase between 1985 and the early 1990's and then decline again. The East German rate is likely to remain below the rates for the other countries throughout the projection period.

Not much change is expected in the death rates for Eastern Europe. The rate for the region as a whole is projected to remain between 10

and 11 per 1,000 population for the rest of the century, and, with the exception of the low series for Bulgaria and the high series for East Germany, none of the projections show a change of more than 2 per 1,000 during the period. The rates for Czechoslovakia and East Germany are likely to decline a little between 1976 and 2000. Small increases are indicated for Bulgaria, Poland, and Romania. The rate for Hungary will probably be about the same throughout the 25-year period.

Selected age-sex characteristics projected for 2000 are given in table 4. The age distributions vary according to the projection series because the size of the total population, and especially the size of the under 15 age group, is strongly dependent upon the projected level of fertility. For every country except East Germany, the percent aged 0 to 14 is higher in the high series and lower in the low series in the year 2000 than it is in 1975. In most cases the medium and constant series indicate less change in the proportion under age 15. East Germany is expected to continue to have the lowest proportion in this age group, with all four series showing lower figures in the year 2000 than in 1975.

The working age population will probably represent about two-thirds of the population in the year 2000. The medium series shows proportions of 64 to 67 percent of the total population in ages 15 to 64, and the figures for the other series are all between 62 and 69 percent. Within the working ages the projections indicate a shift between 1975 and 2000 from the younger ages (15 to 39) to the older ages (40 to 64). For the region as a whole the number aged 15 to 39 should drop from 38 percent of the total population to about 35 percent while the number aged 40 to 64 is expected to increase from 28 percent to about 29 to 32 percent. For all six countries, the figures also indicate a decrease in the proportion aged 15 to 39, and Bulgaria and Romania are the only countries for which any series shows a decline in the percentage aged 40 to 64.

Persons of retirement age will probably comprise a larger portion of the population by the end of the century than in 1975 for all of the countries except Czechoslovakia and East Germany. By the year 2000 the proportion of persons aged 65 and over will have risen from around 9 or 10 percent to about 12 to 15 percent in Bulgaria, Poland, and Romania.

The median age is projected to be higher by the year 2000 except for the high series for Bulgaria, Czechoslovakia, and Hungary. For Eastern Europe the median age is expected to increase from 31.5 years in 1975 to somewhere between 32.6 and 36.7 years in 2000. All of the median ages shown for the medium series for the year 2000 are greater than 32 years, and that for East Germany is more than 38 years.

The number of males per 100 females will probably be higher at the end of the century in every country except Bulgaria, and in East Germany the increase will be especially large. By the year 2000 the ratio for East Germany is expected to be almost as high as those for Czechoslovakia, Hungary, and Poland. For the region as a whole all four series show substantial increases in the sex ratio.

Changes in the dependency ratios vary from one series to another because the relative size of the under 15 age group varies with the

TABLE 4.—SELECTED AGE-SEX CHARACTERISTICS OF THE POPULATION—6 EASTERN EUROPEAN COUNTRIES: 1950, 1975, AND 2000

[As of July 1 for 1950; Jan. 1 for 1975 and 2000. Percentages may not add to totals due to rounding. See text for an explanation of the series]

Country, year, and series	Percent distribution by age group					Median age (in years)	Males per 100 females	Dependency ratio <sup>1</sup>
	All ages	0 to 14	15 to 39	40 to 64	65 and over			
<b>Eastern Europe:</b>								
1950.....	100	26.7	38.1	28.1	7.0	28.7	90.3	509
1975.....	100	23.3	37.8	27.6	11.3	31.5	94.1	529
2000:								
High.....	100	24.4	34.6	29.0	12.0	32.6	97.3	573
Medium.....	100	22.1	34.9	30.5	12.6	34.6	96.9	530
Low.....	100	19.5	35.1	32.1	13.3	36.7	96.5	488
Constant.....	100	22.3	34.8	30.4	12.5	34.5	96.9	534
<b>Bulgaria:</b>								
1950.....	100	26.8	41.7	24.8	6.7	27.3	99.9	504
1975.....	100	22.4	36.4	30.8	10.5	33.5	99.7	490
2000:								
High.....	100	24.2	33.7	28.5	13.5	33.3	99.3	605
Medium.....	100	21.7	33.9	30.1	14.2	35.6	99.0	561
Low.....	100	19.0	34.1	31.8	15.0	37.7	98.7	517
Constant.....	100	21.8	33.9	30.1	14.2	35.5	99.0	562
<b>Czechoslovakia:</b>								
1950.....	100	25.9	37.0	29.5	7.6	30.2	94.6	504
1975.....	100	23.1	36.9	27.7	12.2	31.5	95.0	547
2000:								
High.....	100	25.2	35.2	28.3	11.3	31.2	96.5	576
Medium.....	100	23.0	35.7	29.5	11.8	33.1	96.1	534
Low.....	100	20.3	35.9	31.3	12.5	35.3	95.6	489
Constant.....	100	24.1	35.3	29.0	11.6	32.4	96.2	555
<b>East Germany:</b>								
1950.....	100	22.8	31.0	35.6	10.6	37.3	79.8	502
1975.....	100	21.9	35.6	26.3	16.3	35.1	86.5	617
2000:								
High.....	100	21.7	33.4	31.4	13.5	36.8	94.5	543
Medium.....	100	19.2	33.6	33.0	14.2	38.3	94.0	501
Low.....	100	16.7	34.0	34.4	14.8	39.5	93.6	460
Constant.....	100	16.0	34.2	34.8	14.9	39.8	93.5	449
<b>Hungary:</b>								
1950.....	100	25.1	38.6	29.0	7.3	29.9	92.6	480
1975.....	100	20.2	37.2	30.1	12.5	34.2	94.2	485
2000:								
High.....	100	23.4	33.4	30.1	13.1	33.5	96.4	574
Medium.....	100	21.0	33.4	31.8	13.8	36.0	96.0	534
Low.....	100	18.5	33.5	33.5	14.5	38.4	95.5	493
Constant.....	100	21.0	33.4	31.7	13.8	36.0	96.0	534
<b>Poland:</b>								
1950.....	100	29.4	40.2	25.2	5.2	25.8	91.0	509
1975.....	100	24.1	40.2	26.3	9.3	28.2	94.7	523
2000:								
High.....	100	24.8	35.1	29.0	11.1	31.8	97.2	560
Medium.....	100	22.5	35.2	30.6	11.7	34.1	96.8	519
Low.....	100	19.9	35.4	32.4	12.4	36.4	96.3	476
Constant.....	100	22.4	35.3	30.7	11.7	34.2	96.7	517
<b>Romania:</b>								
1950.....	100	28.4	42.1	24.2	5.3	26.1	93.2	509
1975.....	100	25.2	37.4	28.0	9.4	30.8	96.9	529
2000:								
High.....	100	25.6	35.0	27.6	11.9	31.2	99.4	598
Medium.....	100	23.3	35.5	28.8	12.4	32.3	99.1	551
Low.....	100	20.8	36.0	30.2	13.0	34.1	98.9	511
Constant.....	100	25.5	35.0	27.6	11.9	31.2	99.4	596

<sup>1</sup> Number of persons under 15 and 65 and over per 1,000 persons of age 15 to 64.

level of fertility. For Eastern Europe as a whole the dependency ratio for the high series is higher in 2000 than in 1975, the ratio for the low series is lower, and the ratios for the medium and constant series are about the same in both years. For East Germany all series show lower ratios at the end of the century and for Bulgaria and Hungary all series indicate higher ratios. For the other three countries the ratios in 2000 for the medium series are not much different from the 1975 ratios.

## SOURCES, METHODS, AND ASSUMPTIONS

The projections presented here are consistent with those published in Bureau of Economic Analysis, "Projections of the Population of the Communist Countries of Eastern Europe, by Age and Sex: 1975 to 2000," *International Population Reports, Series P-91, No. 25*, Washington, D.C., July 1976. They supersede all others for these countries prepared previously by the Foreign Demographic Analysis Division.<sup>2</sup> The projections were based on official data available as of April 1975, but in several instances figures have been updated by using later information. Questions concerning the details of these projections or any other aspect of this report should be directed to the Chief, Foreign Demographic Analysis Division, Bureau of Economic Analysis, U.S. Department of Commerce, Washington, D.C. 20230.

The projections were prepared by the cohort-component method. This method begins with recently reported or estimated distributions of the population, by age and sex, and carries the age-sex structure forward to future years on the basis of various assumptions concerning the components of population change (i.e., births, deaths, and migration). For all of the countries, migration was assumed to be insignificant during the projection period.

Whenever possible, official age-sex distributions were used for the base population, but for some countries it was necessary to use estimated or adjusted distributions. For Bulgaria, the population by single years of age and sex reported for January 1, 1971, was updated to January 1, 1974, and adjusted to accord with the population by 5-year age groups and sex reported for the latter date. The base population for Czechoslovakia was estimated by updating and adjusting the distribution by single years of age from the census of March 1, 1961, to conform to the distribution by 5-year age groups reported for January 1, 1974. For the other countries, official distributions by single years of age were used without modification. The base date for East Germany and Hungary was January 1, 1974; the date for Poland was January 1, 1973; and for Romania it was July 1, 1973. For each country the base population was updated to January 1, 1975, by using reported and estimated data on fertility, mortality, and total population for the intervening years.

Four series of projections incorporating alternate fertility assumptions were prepared for each country. The constant series assumes that fertility will remain at the estimated 1974 level throughout the projection period. The other three series were designed to give a reasonable range of possible future trends in fertility. The assumptions for each series were formulated in terms of gross reproduction rates. The rates assumed for 1975 and 2000 are given in table 5; the rates for the intervening years were obtained by linear interpolation. For each country, recently reported or estimated female age-specific fertility rates were adjusted to yield the number of births for 1974. For each series and each year these adjusted fertility rates were multiplied by

<sup>2</sup> Other recent projections for these countries published by this Division were presented in Godfrey Baldwin, "Projections of the Population of the Communist Countries of Eastern Europe, by Age and Sex: 1972 to 2000," U.S. Bureau of Economic Analysis, *International Population Reports, Series P-91, No. 22*, Washington, D.C., December 1972, and in Paul F. Myers, "Population and Labor Force in Eastern Europe: 1950 to 1998," in U.S. Congress, Joint Economic Committee, "Reorientation and Commercial Relations of the Economics of Eastern Europe," Washington, D.C., U.S. Government Printing Office, 1974.

TABLE 5.—ESTIMATED AND ASSUMED GROSS REPRODUCTION RATES—6 EASTERN EUROPEAN COUNTRIES: 1974, 1975, AND 2000

Year and series	Bulgaria	Czecho- slovakia	East Germany	Hungary	Poland	Romania
1974.....	110	121	74	110	109	129
1975:						
High.....	122	127	85	121	120	129
Medium.....	110	121	78	110	109	123
Low.....	99	109	74	99	98	116
Constant.....	110	121	74	110	109	129
2000:						
High.....	130	130	120	130	130	130
Medium.....	110	110	100	110	110	110
Low.....	90	90	80	90	90	90
Constant.....	110	121	74	110	109	129

the ratio of the assumed gross reproduction rate to the 1974 gross reproduction rate to give the projected age-specific fertility rates, which, in turn, were applied to the female population in the reproductive ages to give the projected number of births.

The anticipated fertility levels are related to the estimated gross reproduction rates for 1974. For example, the 1974 rate for East Germany was very low; therefore, between 1974 and 2000 the assumed gross reproduction rates for the high, medium, and low series increase by 62, 35, and 8 percent, respectively. By the year 2000 the assumed gross reproduction rate for the medium series for East Germany is 100, compared with 110 for the other five countries. If mortality is low, a gross reproduction rate of 100 would be only slightly below the level of fertility necessary for the replacement of the population. The high series rates for the other five countries increase during the projection period by amounts that range from 1 percent for Romania to 19 percent for Poland. The low series rates decline by amounts that vary from 17 percent for Poland to 30 percent for Romania. The medium series gross reproduction rate for Czechoslovakia decreases by 9 percent, that for Romania drops by 15 percent, and those for Bulgaria, Hungary, and Poland remain almost constant.

Only one assumption was made about the future course of mortality—that it will decrease at a modest rate throughout the projection period. It was assumed that the decline in mortality would be such that life expectancy at birth would increase by 2.5 years between 1974 and 2000. This was accomplished by using model life tables prepared by Coale and Demeny.<sup>3</sup> These model life tables are divided into four families, each representing a different pattern of age-specific mortality based on the mortality experience of various countries of the world. For present purposes, the families selected were those that most closely matched estimated 1974 survival rates by age for each sex. The rates for 1974 were estimated by adjusting survival rates derived from recently published mortality data, by age and sex, to yield the number of deaths for 1974.

The selection of the family of life tables was made separately for males and females, and it was therefore possible that the tables used for a given country in a given period could come from two different life table families. For each sex, two sets of survival rates were derived from the selected family of tables. The level of mortality

<sup>3</sup> Ansley J. Coale and Paul Demeny, "Regional Model Life Tables and Stable Populations," Princeton N.J., Princeton University Press, 1966.

represented by the first set was such that the implied life expectancy was equal to the estimated 1974 life expectancy as calculated from the adjusted survival rates for 1974. The level of the second set was such that the implied life expectancy was 2.5 years higher than that for 1974. For Czechoslovakia, East Germany, and Poland, the increase in female life expectancy was less than 2.5 years since an increase of that amount for these countries would have pushed the life expectancy for females above the maximum level given in the Coale-Demeny regional model life tables. The differences between the two sets of age-specific survival rates were then added to the estimated survival rates for 1974 to produce the survival rates for 2000. The life expectancies associated with the survival rates for 1974 and 2000 are shown in table 6. Survival rates for the intervening years were calculated by interpolating between the rates for 1974 and those for 2000. These rates were used to calculate the numbers of survivors by age and sex for each year in the projection period.

TABLE 6.—LIFE EXPECTANCIES AT BIRTH, BY SEX—6 EASTERN EUROPEAN COUNTRIES: 1974 AND 2000

Country	1974 (estimated)		2000 (projected)	
	Male	Female	Male	Female
Bulgaria.....	69.0	73.7	71.5	76.2
Czechoslovakia.....	67.6	75.1	70.0	77.5
East Germany.....	68.2	75.1	70.7	77.5
Hungary.....	67.2	74.0	69.7	76.5
Poland.....	68.2	76.2	70.7	77.5
Romania.....	67.8	72.3	70.3	74.8

## APPENDIX TABLES

TABLE I-A.—ESTIMATED AND PROJECTED TOTAL POPULATION, COMPONENTS OF POPULATION CHANGE, AND VITAL RATES—6 EASTERN EUROPEAN COUNTRIES COMBINED: 1950-2000

[Absolute numbers in thousands; rates per 1,000 population. Differences between natural increase and year-to-year changes in the population estimates are due, in varying degrees, to migration and discrepancies in the reporting systems. Natural increase may not equal the difference between births and deaths due to rounding. See text for an explanation of the series.]

Year	Population		Natural increase		Births		Deaths	
	Jan. 1	July 1	Number	Rate	Number	Rate	Number	Rate
<b>Estimates:</b>								
1950.....	88,066	88,500	1,126	12.7	2,160	24.4	1,034	11.7
1951.....	88,910	89,292	1,075	12.0	2,137	23.9	1,062	11.9
1952.....	89,702	90,148	1,089	12.1	2,119	23.5	1,030	11.4
1953.....	90,615	91,027	1,123	12.3	2,111	23.2	988	10.9
1954.....	91,434	91,875	1,133	12.3	2,134	23.2	1,001	10.9
1955.....	92,373	92,855	1,221	13.2	2,157	23.2	935	10.1
1956.....	93,325	93,721	1,151	12.3	2,090	22.3	939	10.0
1957.....	94,012	94,358	1,044	11.1	2,024	21.5	980	10.4
1958.....	94,692	95,116	1,046	11.0	1,949	20.5	903	9.5
1959.....	95,501	95,897	910	9.5	1,888	19.7	978	10.2
1960.....	96,311	96,528	909	9.4	1,819	18.8	909	9.4
1961.....	96,902	97,234	852	8.8	1,750	18.0	898	9.2
1962.....	97,523	97,846	719	7.3	1,681	17.2	962	9.8
1963.....	98,194	98,545	778	7.9	1,685	17.1	907	9.2
1964.....	98,894	99,207	732	7.4	1,647	16.6	915	9.2
1965.....	99,521	99,809	654	6.6	1,596	16.0	942	9.4
1966.....	100,098	100,394	628	6.3	1,556	15.5	929	9.2
1967.....	100,663	100,958	808	8.0	1,790	17.7	983	9.7
1968.....	101,413	101,791	789	7.8	1,805	17.7	1,016	10.0
1969.....	102,095	102,385	690	6.7	1,756	17.2	1,066	10.4
1970.....	102,706	102,995	655	6.5	1,729	16.8	1,064	10.3
1971.....	103,305	103,629	637	6.1	1,721	16.6	1,094	10.5
1972.....	103,883	104,213	648	6.2	1,701	16.3	1,053	10.1
1973.....	104,487	104,783	642	6.1	1,728	16.5	1,086	10.4
1974.....	105,094	105,489	775	7.3	1,855	17.6	1,080	10.2
1975.....	105,835	106,180	746	7.0	1,872	17.6	1,126	10.6

TABLE I-A.—ESTIMATED AND PROJECTED TOTAL POPULATION, COMPONENTS OF POPULATION CHANGE, AND VITAL RATES—6 EASTERN EUROPEAN COUNTRIES COMBINED: 1950-2000—Continued

Year	Population		Natural increase		Births		Deaths	
	Jan. 1	July 1	Number	Rate	Number	Rate	Number	Rate
<b>Projections—High series:</b>								
1976	106,775	107,246	942	8.8	2,055	19.2	1,112	10.4
1977	107,717	108,195	956	8.8	2,084	19.3	1,128	10.4
1978	108,673	109,155	964	8.8	2,105	19.3	1,141	10.5
1979	109,637	110,119	965	8.8	2,119	19.2	1,154	10.5
1980	110,601	111,081	959	8.6	2,124	19.1	1,165	10.5
1981	111,560	112,033	945	8.4	2,121	18.9	1,176	10.5
1982	112,505	112,969	926	8.2	2,113	18.7	1,186	10.5
1983	113,432	113,885	906	8.0	2,101	18.4	1,195	10.5
1984	114,338	114,781	886	7.7	2,089	18.2	1,203	10.5
1985	115,224	115,659	869	7.5	2,080	18.0	1,210	10.5
1986	116,093	116,523	859	7.4	2,074	17.8	1,215	10.4
1987	116,952	117,379	852	7.3	2,072	17.7	1,220	10.4
1988	117,805	118,230	851	7.2	2,074	17.5	1,223	10.3
1989	118,655	119,081	850	7.1	2,076	17.4	1,226	10.3
1990	119,506	119,935	858	7.2	2,079	17.3	1,220	10.2
1991	120,364	120,800	872	7.2	2,083	17.2	1,210	10.0
1992	121,235	121,679	887	7.3	2,090	17.2	1,203	9.9
1993	122,123	122,575	904	7.4	2,104	17.2	1,200	9.8
1994	123,027	123,486	918	7.4	2,129	17.2	1,212	9.8
1995	123,945	124,412	934	7.5	2,165	17.4	1,230	9.9
1996	124,879	125,358	959	7.7	2,208	17.6	1,249	10.0
1997	125,838	126,332	988	7.8	2,256	17.9	1,268	10.0
1998	126,826	127,337	1,021	8.0	2,306	18.1	1,285	10.1
1999	127,847	128,374	1,054	8.2	2,355	18.3	1,302	10.1
2000	128,901	129,443	1,084	8.4	2,402	18.6	1,318	10.2
<b>Projections—Medium series:</b>								
1976	106,625	107,017	784	7.3	1,893	17.7	1,109	10.4
1977	107,410	107,804	788	7.3	1,912	17.7	1,124	10.4
1978	108,198	108,592	788	7.3	1,925	17.7	1,137	10.5
1979	108,985	109,375	780	7.1	1,929	17.6	1,150	10.5
1980	109,765	110,148	766	7.0	1,927	17.5	1,160	10.5
1981	110,531	110,904	746	6.7	1,917	17.3	1,171	10.6
1982	111,277	111,638	721	6.5	1,902	17.0	1,180	10.6
1983	111,998	112,345	695	6.2	1,884	16.8	1,190	10.6
1984	112,693	113,027	669	5.9	1,867	16.5	1,198	10.6
1985	113,362	113,686	647	5.7	1,852	16.3	1,200	10.6
1986	114,009	114,325	631	5.5	1,841	16.1	1,209	10.6
1987	114,641	114,949	618	5.4	1,883	15.9	1,215	10.6
1988	115,258	115,563	610	5.3	1,827	15.8	1,217	10.5
1989	115,868	116,170	603	5.2	1,823	15.7	1,220	10.5
1990	116,472	116,774	604	5.2	1,819	15.6	1,214	10.4
1991	117,076	117,384	610	5.2	1,815	15.5	1,205	10.3
1992	117,686	117,995	617	5.2	1,813	15.4	1,196	10.1
1993	118,303	118,614	622	5.2	1,816	15.3	1,194	10.1
1994	118,925	119,234	619	5.2	1,824	15.3	1,205	10.1
1995	119,544	119,850	614	5.1	1,837	15.3	1,223	10.2
1996	120,157	120,464	612	5.1	1,853	15.4	1,241	10.3
1997	120,770	121,076	612	5.1	1,872	15.5	1,260	10.4
1998	121,382	121,690	615	6.1	1,891	15.8	1,276	10.5
1999	121,997	122,305	617	5.0	1,909	15.6	1,293	10.6
2000	122,613	122,922	616	5.0	1,925	15.7	1,309	10.6
<b>Projections—Low series:</b>								
1976	105,470	106,780	621	5.8	1,726	16.2	1,105	10.3
1977	107,091	107,399	616	5.7	1,736	16.2	1,120	10.4
1978	107,707	108,010	606	5.6	1,739	16.1	1,133	10.5
1979	108,313	108,609	591	5.4	1,736	16.0	1,145	10.5
1980	108,904	109,189	570	5.2	1,725	15.8	1,156	10.6
1981	109,474	109,746	543	4.9	1,709	15.6	1,166	10.0
1982	110,017	110,273	512	4.6	1,688	15.3	1,176	10.7
1983	110,530	110,770	481	4.3	1,665	15.0	1,184	10.7
1984	111,010	111,236	450	4.0	1,643	14.8	1,192	10.7
1985	111,460	111,672	423	3.8	1,622	14.5	1,199	10.7
1986	111,883	112,084	401	3.6	1,605	14.3	1,204	10.7
1987	112,284	112,475	381	3.4	1,591	14.1	1,209	10.8
1988	112,666	112,850	368	3.3	1,579	14.0	1,211	10.7
1989	113,034	113,211	354	3.1	1,568	13.9	1,214	10.7
1990	113,388	113,562	349	3.1	1,557	13.7	1,208	10.6
1991	113,736	113,910	347	3.1	1,546	13.8	1,199	10.5
1992	114,084	114,257	346	3.0	1,536	13.4	1,190	10.4
1993	114,430	114,600	340	3.0	1,527	13.3	1,187	10.4
1994	114,790	114,931	323	2.8	1,521	13.2	1,198	10.4
1995	115,092	115,242	299	2.6	1,515	13.2	1,216	10.6
1996	115,392	115,530	277	2.4	1,510	13.1	1,234	10.7
1997	115,668	115,795	253	2.2	1,505	13.0	1,252	10.8
1998	115,921	116,037	231	2.0	1,499	12.9	1,268	10.9
1999	116,152	116,256	208	1.8	1,492	12.8	1,284	11.0
2000	116,360	116,452	184	1.6	1,484	12.7	1,300	11.2

TABLE 1-A.—ESTIMATED AND PROJECTED TOTAL POPULATION, COMPONENTS OF POPULATION CHANGE, AND VITAL RATES—6 EASTERN EUROPEAN COUNTRIES COMBINED: 1950-2000—Continued

Year	Population		Natural increase		Births		Deaths	
	Jan. 1	July 1	Number	Rate	Number	Rate	Number	Rate
Projections—Constant series:								
1976	106,637	107,035	796	7.4	1,906	17.8	1,109	10.4
1977	107,434	107,834	801	7.4	1,925	17.9	1,125	10.4
1978	108,234	108,635	800	7.4	1,938	17.8	1,138	10.5
1979	109,035	109,439	792	7.2	1,943	17.8	1,150	10.5
1980	109,827	110,216	778	7.1	1,939	17.6	1,161	10.5
1981	110,605	110,984	757	6.8	1,929	17.4	1,172	10.6
1982	111,362	111,728	732	6.5	1,914	17.1	1,182	10.6
1983	112,094	112,446	705	6.3	1,895	16.9	1,191	10.6
1984	112,799	113,138	679	6.8	1,878	16.6	1,199	10.6
1985	113,478	113,806	657	5.8	1,863	16.4	1,206	10.5
1986	114,135	114,456	642	5.6	1,852	16.2	1,210	10.6
1987	114,777	115,091	629	5.5	1,845	16.0	1,216	10.6
1988	115,406	115,718	624	5.4	1,842	15.9	1,218	10.5
1989	116,030	116,339	619	5.3	1,839	15.8	1,221	10.0
1990	115,648	116,959	622	5.3	1,837	15.7	1,216	10.4
1991	117,270	117,585	630	5.4	1,836	15.6	1,206	10.3
1992	117,900	118,220	640	5.4	1,837	15.5	1,198	10.1
1993	118,540	118,864	648	5.4	1,843	15.5	1,195	10.1
1994	119,188	119,512	648	5.4	1,854	15.5	1,206	10.1
1995	119,835	120,159	646	5.4	1,871	15.6	1,225	10.2
1996	120,482	120,806	649	5.4	1,891	16.7	1,243	10.3
1997	121,130	121,457	653	5.4	1,914	15.8	1,261	10.4
1998	121,788	122,112	659	5.4	1,937	15.9	1,278	10.5
1999	122,441	122,773	664	5.4	1,958	16.0	1,295	10.5
2000	123,105	123,439	667	5.4	1,978	16.0	1,311	10.6

TABLE 1-B.—ESTIMATED AND PROJECTED TOTAL POPULATION, COMPONENTS OF POPULATION CHANGE, AND VITAL RATES—BULGARIA: 1950-2000

[Absolute numbers in thousands; rates per 1,000 population. Differences between natural increase and year-to-year changes in the population estimates are due, in varying degrees, to migration and discrepancies in the reporting systems. Natural increase may not equal the difference between births and deaths due to rounding. See text for an explanation of the series.]

Year	Population		Natural increase		Births		Deaths	
	Jan. 1	July 1	Number	Rate	Number	Rate	Number	Rate
Estimates:								
1950	7,228	7,250	108	15.0	183	25.2	74	10.2
1951	7,273	7,258	75	10.4	153	21.0	77	10.6
1952	7,243	7,275	70	9.6	154	21.2	84	11.6
1953	7,307	7,346	85	11.6	153	20.9	68	9.3
1954	7,386	7,423	82	11.0	150	20.2	68	9.2
1955	7,461	7,499	83	11.1	151	20.1	68	9.0
1956	7,538	7,576	77	10.1	148	19.5	71	9.4
1957	7,616	7,651	75	9.8	141	18.4	66	8.6
1958	7,689	7,728	78	10.0	138	17.9	61	7.9
1959	7,766	7,798	63	8.1	137	17.6	74	9.5
1960	7,829	7,867	76	9.7	140	17.8	64	8.1
1961	7,906	7,943	75	9.5	138	17.4	63	7.9
1962	7,981	8,013	65	8.0	134	16.7	70	8.7
1963	8,045	8,078	66	8.2	132	16.4	66	8.2
1964	8,111	8,144	66	8.2	131	16.1	64	7.9
1965	8,178	8,201	59	7.2	126	15.3	67	8.1
1966	8,231	8,258	55	6.6	123	14.9	68	8.3
1967	8,285	8,310	50	6.0	125	15.0	75	9.0
1968	8,335	8,370	69	8.3	141	16.9	72	8.6
1969	8,404	8,434	63	7.5	143	17.0	80	9.5
1970	8,464	8,490	62	7.2	139	16.3	77	9.1
1971	8,515	8,536	53	6.2	135	15.9	83	9.7
1972	8,558	8,576	47	5.5	131	15.3	84	9.8
1973	8,594	8,621	58	6.7	140	16.2	81	9.5
1974	8,647	8,679	64	7.4	149	17.2	85	9.8
1975	8,710	8,722	55	6.3	145	16.6	90	10.3

TABLE I-B.—ESTIMATED AND PROJECTED TOTAL POPULATION, COMPONENTS OF POPULATION CHANGE, AND VITAL RATES—BULGARIA: 1950–2000—Continued

Year	Population		Natural increase		Births		Deaths	
	Jan. 1	July 1	Number	Rate	Number	Rate	Number	Rate
<b>Projections—High series:</b>								
1976	8,787	8,826	77	8.7	165	18.7	89	10.0
1977	8,864	8,902	76	8.5	166	18.6	90	10.1
1978	8,940	8,977	74	8.3	166	18.4	91	10.2
1979	9,014	9,050	72	8.0	165	18.3	93	10.3
1980	9,086	9,121	70	7.7	165	18.1	95	10.4
1981	9,156	9,191	68	7.4	164	17.9	96	10.4
1982	9,225	9,258	67	7.2	164	17.7	97	10.5
1983	9,291	9,324	64	6.9	163	17.5	98	10.5
1984	9,356	9,387	62	6.6	162	17.2	100	10.6
1985	9,418	9,448	60	6.3	161	17.0	101	10.7
1986	9,478	9,507	59	6.2	160	16.9	102	10.7
1987	9,537	9,565	58	6.0	161	16.8	103	10.8
1988	9,594	9,623	59	6.1	161	16.8	103	10.7
1989	9,653	9,682	58	6.0	162	16.8	104	10.7
1990	9,711	9,740	59	6.0	164	16.8	105	10.8
1991	9,770	9,800	61	6.2	165	16.9	104	10.6
1992	9,831	9,863	64	6.5	167	16.9	103	10.5
1993	9,895	9,928	66	6.7	170	17.1	103	10.4
1994	9,961	9,995	69	6.9	173	17.3	105	10.5
1995	10,030	10,065	71	7.0	177	17.6	106	10.6
1996	10,100	10,137	73	7.2	182	17.9	108	10.7
1997	10,174	10,212	76	7.4	186	18.2	110	10.8
1998	10,250	10,289	78	7.6	190	18.4	111	10.8
1999	10,328	10,368	80	7.7	193	18.6	114	11.0
2000	10,408	10,448	81	7.8	196	18.8	115	11.0
<b>Projections—Medium series:</b>								
1976	8,773	8,803	62	7.0	150	17.0	88	10.0
1977	8,834	8,864	60	6.8	150	16.9	90	10.1
1978	8,894	8,923	58	6.5	149	16.7	91	10.2
1979	8,952	8,980	56	6.2	149	16.5	93	10.3
1980	9,008	9,035	54	5.9	148	16.4	94	10.4
1981	9,062	9,088	51	5.9	147	16.2	96	10.5
1982	9,113	9,138	49	5.4	146	16.0	97	10.6
1983	9,162	9,186	47	5.1	145	15.7	98	10.7
1984	9,209	9,231	44	4.8	143	15.5	99	10.7
1985	9,253	9,274	42	4.5	142	15.3	101	10.8
1986	9,295	9,315	40	4.3	141	15.2	101	10.9
1987	9,335	9,354	38	4.1	141	15.1	103	11.0
1988	9,373	9,392	39	4.1	141	15.0	102	10.9
1989	9,412	9,431	38	4.0	142	15.0	104	11.0
1990	9,450	9,469	38	4.0	142	15.0	104	11.0
1991	9,488	9,508	40	4.2	143	15.1	104	10.9
1992	9,528	9,548	41	4.3	144	15.1	103	10.8
1993	9,569	9,590	42	4.4	145	15.2	103	10.7
1994	9,611	9,633	43	4.5	147	15.2	104	10.8
1995	9,654	9,676	43	4.4	149	15.4	106	10.9
1996	9,697	9,718	43	4.4	150	15.5	108	11.1
1997	9,740	9,761	42	4.3	152	15.5	109	11.2
1998	9,782	9,803	42	4.3	153	15.6	111	11.3
1999	9,824	9,845	41	4.2	154	15.6	113	11.5
2000	9,865	9,885	40	4.1	155	15.6	114	11.6
<b>Projections—Low series:</b>								
1976	8,758	8,781	46	5.3	134	15.3	88	10.0
1977	8,804	8,827	44	5.0	134	15.1	89	10.1
1978	8,849	8,870	42	4.8	133	15.0	91	10.2
1979	8,891	8,911	40	4.4	132	14.8	92	10.3
1980	8,930	8,949	37	4.1	131	14.6	94	10.5
1981	8,967	8,985	34	3.8	129	14.4	95	10.6
1982	9,002	9,017	32	3.5	128	14.2	96	10.7
1983	9,033	9,048	29	3.2	126	14.0	97	10.8
1984	9,062	9,075	26	2.9	125	13.7	99	10.9
1985	9,088	9,100	23	2.5	123	13.5	100	11.0
1986	9,111	9,122	21	2.3	122	13.4	101	11.1
1987	9,132	9,142	19	2.1	121	13.3	102	11.2
1988	9,152	9,161	19	2.1	121	13.2	102	11.1
1989	9,171	9,180	18	2.0	121	13.2	103	11.2
1990	9,189	9,198	17	1.9	121	13.2	104	11.3
1991	9,206	9,215	18	2.0	121	13.1	103	11.2
1992	9,224	9,234	19	2.1	121	13.1	102	11.1
1993	9,243	9,253	19	2.0	121	13.1	102	11.1
1994	9,262	9,271	18	1.9	121	13.1	103	11.2
1995	9,280	9,288	16	1.7	121	13.0	105	11.3
1996	9,296	9,303	14	1.5	121	13.0	107	11.5
1997	9,309	9,315	11	1.2	120	12.9	109	11.7
1998	9,321	9,325	9	1.0	119	12.8	110	11.8
1999	9,330	9,333	6	.7	118	12.7	112	12.0
2000	9,336	9,337	4	.4	117	12.5	114	12.2

TABLE 1-B.—ESTIMATED AND PROJECTED TOTAL POPULATION, COMPONENTS OF POPULATION CHANGE, AND VITAL RATES—BULGARIA: 1950-2000—Continued

Year	Population		Natural increase		Births		Deaths	
	Jan. 1	July 1	Number	Rate	Number	Rate	Number	Rate
Projections—Constant series:								
1976	8,773	8,803	62	7.0	150	17.0	88	10.0
1977	8,834	8,864	60	6.8	150	16.9	90	10.1
1978	8,894	8,923	58	6.5	150	16.7	91	10.2
1979	8,952	8,980	56	6.2	149	16.6	93	10.3
1980	9,008	9,035	54	6.0	148	16.4	94	10.4
1981	9,062	9,088	51	5.7	147	16.2	96	10.5
1982	9,114	9,138	49	5.4	146	16.0	97	10.6
1983	9,163	9,186	47	5.1	145	15.8	98	10.7
1984	9,210	9,232	44	4.8	143	15.5	99	10.7
1985	9,254	9,275	42	4.5	142	15.3	101	10.8
1986	9,296	9,316	40	4.3	141	15.2	101	10.9
1987	9,336	9,355	39	4.1	141	15.1	103	11.0
1988	9,375	9,394	39	4.2	141	15.1	102	10.9
1989	9,414	9,433	38	4.1	142	15.0	104	11.0
1990	9,452	9,471	38	4.1	143	15.1	104	11.0
1991	9,490	9,510	40	4.2	143	15.1	104	10.9
1992	9,530	9,551	42	4.4	144	15.1	103	10.8
1993	9,572	9,593	43	4.5	146	15.2	103	10.7
1994	9,615	9,636	43	4.5	147	15.3	104	10.8
1995	9,658	9,680	43	4.5	149	15.4	106	10.9
1996	9,701	9,723	43	4.4	151	15.5	108	11.2
1997	9,744	9,766	43	4.4	152	15.6	109	11.1
1998	9,787	9,809	43	4.4	153	15.6	111	11.3
1999	9,830	9,851	42	4.2	154	15.7	113	11.4
2000	9,872	9,892	41	4.1	155	15.7	114	11.6

TABLE 1-C.—ESTIMATED AND PROJECTED TOTAL POPULATION, COMPONENTS OF POPULATION CHANGE, AND VITAL RATES—CZECHOSLOVAKIA: 1950-2000

Absolute numbers in thousands; rates per 1,000 population. Differences between natural increase and year-to-year changes in the population estimates are due, in varying degrees, to migration and discrepancies in the reporting systems. Natural increase may not equal the difference between births and deaths due to rounding. See text for an explanation of the series.]

Year	Population <sup>1</sup>		Natural increase		Births		Deaths	
	Jan. 1	July 1	Number	Rate <sup>2</sup>	Number	Rate <sup>2</sup>	Number	Rate <sup>2</sup>
Estimates:								
1950	12,340	12,389	145	11.8	288	23.3	143	11.5
1951	12,464	12,532	143	11.4	286	22.8	143	11.4
1952	12,607	12,683	146	11.6	281	22.2	135	10.6
1953	12,754	12,820	137	10.7	272	21.2	134	10.5
1954	12,892	12,952	132	10.2	267	20.6	135	10.4
1955	13,024	13,093	139	10.7	265	20.3	126	9.6
1956	13,162	13,229	136	10.2	262	19.8	126	9.6
1957	13,296	13,358	118	8.8	253	18.9	134	10.1
1958	13,414	13,474	109	8.1	235	17.4	126	9.3
1959	13,523	13,565	86	6.3	217	16.0	131	9.7
1960	13,608	13,654	92	6.7	217	15.9	125	9.2
1961	13,698	13,779	92	6.7	218	15.8	126	9.2
1962	13,822	13,858	79	5.7	217	15.7	139	10.0
1963	13,899	13,948	103	7.4	236	16.9	133	9.5
1964	13,999	14,052	106	7.6	241	17.2	135	9.6
1965	14,097	14,147	91	6.4	232	16.4	141	10.0
1966	14,179	14,224	80	5.7	223	15.7	142	10.0
1967	14,252	14,277	72	5.0	216	15.1	144	10.1
1968	14,298	14,323	61	4.2	214	14.9	153	10.7
1969	14,282	14,284	62	4.3	223	15.6	161	11.3
1970	14,309	14,319	63	4.4	229	16.0	166	11.6
1971	14,350	14,390	72	5.0	237	16.5	165	11.5
1972	14,419	14,465	91	6.3	251	17.4	161	11.1
1973	14,510	14,560	107	7.3	275	18.9	168	11.6
1974	14,618	14,686	120	8.1	291	19.8	171	11.7
1975	14,738	14,802	120	8.1	289	19.5	170	11.5

See footnotes at end of table.

TABLE 4-C.—ESTIMATED AND PROJECTED TOTAL POPULATION, COMPONENTS OF POPULATION CHANGE, AND VITAL RATES—CZECHOSLOVAKIA: 1950–2000—Continued

Year	Population		Natural increase		Births		Deaths	
	Jan. 1	July 1	Number	Rate	Number	Rate	Number	Rate
<b>Projections—High series:</b>								
1976	14,881	14,950	138	9.3	309	20.7	171	11.4
1977	15,019	15,088	137	9.1	310	20.5	173	11.4
1978	15,156	15,224	135	8.9	309	20.3	174	11.4
1979	15,291	15,357	131	8.6	307	20.0	175	11.4
1980	15,423	15,486	128	8.2	304	19.6	176	11.4
1981	15,550	15,612	123	7.9	300	19.2	177	11.3
1982	15,674	15,733	120	7.6	297	18.9	177	11.3
1983	15,793	15,851	116	7.3	294	18.5	177	11.3
1984	15,909	15,965	113	7.1	292	18.3	179	11.2
1985	16,022	16,078	112	7.0	291	18.1	179	11.2
1986	16,134	16,189	111	6.8	290	17.9	179	11.1
1987	16,245	16,300	110	6.7	289	17.7	179	11.0
1988	16,355	16,409	109	6.6	288	17.5	179	11.0
1989	16,464	16,518	108	6.6	287	17.4	179	10.9
1990	16,572	16,627	111	6.6	287	17.3	177	10.6
1991	16,683	16,740	115	6.9	289	17.3	175	10.4
1992	16,797	16,857	120	7.1	293	17.4	173	10.3
1993	16,918	16,981	127	7.5	299	17.6	172	10.1
1994	17,045	17,112	134	7.8	307	17.9	173	10.1
1995	17,179	17,249	141	8.2	316	18.3	174	10.1
1996	17,320	17,394	149	8.6	326	18.7	177	10.2
1997	17,469	17,547	157	8.9	335	19.1	179	10.2
1998	17,625	17,707	164	9.3	344	19.5	180	10.2
1999	17,790	17,875	171	9.5	352	19.7	182	10.2
2000	17,960	18,048	176	9.8	359	19.9	183	10.1
<b>Projections—Medium series:</b>								
1976	14,866	14,928	123	8.2	293	19.7	171	11.4
1977	14,989	15,049	120	8.0	292	19.4	172	11.5
1978	15,109	15,167	116	7.7	290	19.1	174	11.5
1979	15,225	15,281	112	7.3	287	18.8	175	11.4
1980	15,337	15,391	107	7.0	283	18.4	176	11.4
1981	15,444	15,495	102	6.6	278	17.9	176	11.4
1982	15,546	15,594	97	6.2	274	17.5	177	11.4
1983	15,642	15,688	92	5.9	270	17.2	178	11.3
1984	15,734	15,779	89	5.6	267	16.9	178	11.3
1985	15,823	15,866	86	5.4	264	16.7	178	11.2
1986	15,909	15,951	84	5.3	262	16.4	178	11.2
1987	15,993	16,034	82	5.1	260	16.2	178	11.1
1988	16,074	16,114	80	4.9	258	16.0	178	11.0
1989	16,154	16,193	78	4.8	256	15.8	178	11.0
1990	16,232	16,272	79	4.8	255	15.7	176	10.8
1991	16,311	16,352	81	5.0	256	15.6	174	10.7
1992	16,392	16,435	85	5.2	257	15.7	172	10.5
1993	16,478	16,522	90	5.4	261	15.8	172	10.4
1994	16,567	16,614	93	5.6	265	16.0	172	10.4
1995	16,661	16,709	97	5.8	271	16.2	174	10.4
1996	16,758	16,808	101	6.0	277	16.5	176	10.5
1997	16,859	16,911	104	6.2	282	16.7	178	10.5
1998	16,963	17,016	107	6.3	287	16.8	180	10.6
1999	17,070	17,124	109	6.4	290	16.9	181	10.6
2000	17,179	17,234	110	6.4	292	16.9	182	10.6
<b>Projections—Low series:</b>								
1976	14,837	14,884	93	6.2	263	17.7	170	11.4
1977	14,930	14,975	90	6.0	261	17.5	172	11.5
1978	15,020	15,063	85	5.7	258	17.2	173	11.5
1979	15,105	15,145	80	5.3	255	16.8	174	11.5
1980	15,186	15,223	75	4.9	250	16.4	175	11.5
1981	15,261	15,295	69	4.5	245	16.0	176	11.5
1982	15,330	15,362	64	4.2	240	15.6	176	11.5
1983	15,394	15,424	59	3.8	236	15.3	177	11.5
1984	15,453	15,481	55	3.6	233	15.0	178	11.5
1985	15,508	15,534	51	3.3	230	14.8	178	11.4
1986	15,560	15,585	49	3.2	227	14.6	178	11.4
1987	15,609	15,633	47	3.0	224	14.3	178	11.4
1988	15,656	15,678	44	2.8	222	14.1	177	11.4
1989	15,700	15,721	42	2.7	220	13.9	177	11.3
1990	15,742	15,763	42	2.7	218	13.8	176	11.1
1991	15,784	15,805	43	2.7	217	13.7	174	11.0
1992	15,827	15,850	45	2.9	217	13.7	172	10.8
1993	15,872	15,896	48	3.0	218	13.7	170	10.7
1994	15,920	15,945	49	3.1	220	13.8	171	10.7
1995	15,969	15,994	49	3.1	222	13.9	173	10.8
1996	16,019	16,043	49	3.0	224	14.0	175	10.9
1997	16,067	16,091	48	3.0	225	14.0	177	11.0
1998	16,115	16,138	46	2.9	225	13.9	179	11.1
1999	16,162	16,184	44	2.7	224	13.8	180	11.1
2000	16,206	16,227	42	2.6	222	13.7	181	11.2

See footnotes at end of table.

TABLE I-C.—ESTIMATED AND PROJECTED TOTAL POPULATION, COMPONENTS OF POPULATION CHANGE, AND VITAL RATES—CZECHOSLOVAKIA: 1950-2000—Continued

Year	Population		Natural increase		Births		Deaths	
	Jan. 1	July 1	Number	Rate	Number	Rate	Number	Rate
Projections—Constant series:								
1976	14,866	14,928	124	8.3	294	19.7	171	11.4
1977	14,990	15,051	122	8.1	294	19.6	172	11.5
1978	15,112	15,172	119	7.9	293	19.3	174	11.5
1979	15,231	15,289	116	7.6	291	19.0	175	11.4
1980	15,347	15,403	112	7.3	288	18.7	176	11.4
1981	15,459	15,513	108	6.9	284	18.3	177	11.3
1982	15,567	15,619	103	6.6	281	18.0	177	11.3
1983	15,670	15,720	100	6.3	278	17.7	178	11.3
1984	15,770	15,819	97	6.1	276	17.4	178	11.2
1985	15,867	15,915	96	6.0	274	17.2	178	11.2
1986	15,963	16,010	94	5.9	273	17.0	178	11.1
1987	16,057	16,104	93	5.8	271	16.9	178	11.1
1988	16,150	16,196	92	5.7	270	16.7	178	11.0
1989	16,242	16,288	91	5.6	269	16.5	178	10.9
1990	16,333	16,380	93	5.7	270	16.5	177	10.8
1991	16,426	16,475	97	5.9	271	16.4	174	10.6
1992	16,523	16,574	101	6.1	274	16.5	172	10.4
1993	16,624	16,678	107	6.4	279	16.7	171	10.3
1994	16,732	16,788	112	6.7	285	17.0	171	10.3
1995	16,844	16,903	118	7.0	292	17.3	174	10.3
1996	16,962	17,023	123	7.2	299	17.6	176	10.4
1997	17,085	17,149	128	7.5	307	17.9	178	10.4
1998	17,213	17,280	133	7.7	313	18.1	180	10.4
1999	17,346	17,415	137	7.9	318	18.3	181	10.4
2000	17,483	17,553	140	8.0	322	18.4	182	10.4

<sup>1</sup> The published population totals for the years 1961-70 have been revised downward here to account for the difference of approximately 148,000 between the Dec. 1, 1970, census total of 14,344,987 and the figure for that date implied by the unrevised official estimates. Although this difference could have been due to an undercount in the census or to errors in birth- and death registration, it is more likely due to the underregistration of emigration since the 1961 census. Accordingly, the revised estimates are based on the Mar. 1, 1961, census total and adjustments to the implied annual net emigration figures so as to be consistent with the 1970 census total. These adjustments include the assumption that 60,000 refugees left during the last half of 1968 and 20,000 during the first half of 1969.

<sup>2</sup> Rates for the years 1961-70 are based on the published numbers of births and deaths and the revised midyear population totals. See note 1 above.

TABLE I-D.—ESTIMATED AND PROJECTED TOTAL POPULATION, COMPONENTS OF POPULATION CHANGE, AND VITAL RATES—EAST GERMANY: 1950-2000

[Absolute numbers in thousands; rates per 1,000 population. Differences between natural increase and year-to-year changes in the population estimates are due, in varying degrees, to migration and discrepancies in the reporting systems. Natural increase may not equal the difference between births and deaths due to rounding. See text for an explanation of the series.]

Year	Population <sup>1</sup>		Natural increase		Births		Deaths	
	Jan. 1	July 1	Number	Rate <sup>2</sup>	Number	Rate <sup>2</sup>	Number	Rate
Estimates:								
1950	18,388	18,388	84	4.6	304	16.5	220	11.9
1951	18,355	18,344	102	5.6	311	16.9	209	11.4
1952	18,334	18,303	84	4.6	306	16.7	222	12.1
1953	18,271	18,164	86	4.8	299	16.5	213	11.7
1954	18,057	17,993	74	4.1	294	16.3	220	12.2
1955	17,929	17,832	79	4.4	293	16.4	214	12.0
1956	17,736	17,607	69	3.9	281	16.0	213	12.1
1957	17,478	17,370	48	2.8	273	15.7	225	13.0
1958	17,263	17,206	50	2.9	271	15.8	221	12.9
1959	17,149	17,132	62	3.6	292	17.0	230	13.4
1960	17,114	17,058	59	3.5	293	17.2	234	13.7
1961	17,002	16,938	78	4.6	301	17.8	223	13.2
1962	16,875	16,903	64	3.8	298	17.6	234	13.8
1963	16,930	16,951	79	4.7	301	17.8	222	13.1
1964	16,972	16,983	66	3.9	292	17.2	226	13.3
1965	17,004	17,020	51	3.0	281	16.5	230	13.5
1966	17,040	17,058	42	2.5	268	15.7	226	13.2
1967	17,071	17,082	26	1.5	253	14.8	227	13.3
1968	17,090	17,084	3	.2	245	14.3	242	14.2
1969	17,087	17,076	-5	-.3	239	14.0	244	14.3
1970	17,075	17,070	-4	-.2	237	13.9	241	14.1
1971	17,068	17,061	0	0	235	13.8	235	13.8
1972	17,054	17,043	-34	-2.0	200	11.8	234	13.8
1973	17,011	16,980	-52	-3.0	180	10.6	232	13.7
1974	16,951	16,925	-50	-3.0	179	10.6	229	13.5
1975	16,891	16,850	-60	-3.5	182	10.8	241	14.3

See footnotes at end of table.

TABLE I-D.—ESTIMATED AND PROJECTED TOTAL POPULATION, COMPONENTS OF POPULATION CHANGE, AND VITAL RATES—EAST GERMANY: 1950–2000—Continued

Year	Population <sup>1</sup>		Natural increase		Births		Deaths	
	Jan. 1	July 1	Number	Rate <sup>2</sup>	Number	Rate <sup>2</sup>	Number	Rate <sup>2</sup>
<b>Projections—High series:</b>								
1976	16,884	16,876	-16	- .9	213	12.6	229	13.5
1977	16,868	16,863	-11	- .7	219	13.0	230	13.6
1978	16,857	16,855	-2	- .3	225	13.4	230	13.7
1979	16,852	16,853	2	.1	232	13.8	231	13.7
1980	16,854	16,858	9	.5	239	14.2	230	13.7
1981	16,863	16,871	16	1.0	246	14.6	230	13.6
1982	16,879	16,891	23	1.4	253	15.0	229	13.6
1983	16,902	16,917	30	1.8	258	15.3	228	13.5
1984	16,932	16,950	36	2.1	263	15.5	227	13.4
1985	16,968	16,983	40	2.4	266	15.7	226	13.3
1986	17,008	17,031	45	2.6	268	15.7	223	13.1
1987	17,053	17,076	47	2.8	269	15.7	221	13.0
1988	17,100	17,125	49	2.9	269	15.7	219	12.8
1989	17,149	17,175	51	3.0	268	15.6	217	12.6
1990	17,201	17,227	53	3.1	265	15.4	213	12.3
1991	17,253	17,280	54	3.1	262	15.1	208	12.0
1992	17,307	17,335	54	3.1	258	14.9	203	11.7
1993	17,362	17,389	54	3.1	254	14.6	200	11.5
1994	17,416	17,442	53	3.0	252	14.5	199	11.4
1995	17,469	17,494	51	2.9	252	14.4	201	11.5
1996	17,520	17,545	51	2.9	253	14.4	202	11.5
1997	17,570	17,597	53	3.0	255	14.5	203	11.5
1998	17,623	17,652	57	3.2	259	14.7	203	11.5
1999	17,680	17,710	61	3.4	264	14.9	203	11.5
2000	17,741	17,774	65	3.7	270	15.2	204	11.5
<b>Projections—Medium series:</b>								
1976	16,866	16,849	-35	-2.1	194	11.5	228	13.6
1977	16,831	16,816	-32	-1.9	198	11.8	229	13.6
1978	16,800	16,786	-27	-1.6	203	12.1	230	13.7
1979	16,773	16,762	-22	-1.3	208	12.4	230	13.7
1980	16,751	16,743	-17	-1.0	213	12.7	230	13.7
1981	16,734	16,729	-11	- .6	219	13.1	229	13.7
1982	16,724	16,721	-5	- .3	224	13.4	229	13.7
1983	16,718	16,718	0	0	228	13.6	228	13.6
1984	16,718	16,720	4	.2	231	13.8	227	13.6
1985	16,722	16,726	8	.5	233	13.9	225	13.4
1986	16,730	16,735	11	.6	233	13.9	223	13.3
1987	16,740	16,747	12	.7	233	13.9	221	13.2
1988	16,753	16,760	14	.8	232	13.9	219	13.0
1989	16,767	16,774	15	.9	231	13.8	216	12.9
1990	16,781	16,789	16	1.0	228	13.6	212	12.6
1991	16,797	16,806	17	1.0	224	13.3	207	12.3
1992	16,814	16,823	17	1.0	219	13.0	203	12.0
1993	16,831	16,839	16	.9	215	12.8	199	11.8
1994	16,847	16,853	12	.7	211	12.5	199	11.8
1995	16,859	16,863	8	.5	208	12.4	200	11.9
1996	16,867	16,870	5	.3	207	12.3	201	11.9
1997	16,872	16,875	4	.3	206	12.2	202	12.0
1998	16,877	16,879	5	.3	207	12.2	202	12.0
1999	16,881	16,884	6	.3	208	12.3	202	12.0
2000	16,887	16,890	7	.4	210	12.4	203	12.0
<b>Projections—Low series:</b>								
1976	16,857	16,835	-45	-2.7	183	10.9	228	13.6
1977	16,812	16,790	-44	-2.6	185	11.0	229	13.7
1978	16,768	16,748	-41	-2.5	188	11.3	229	13.7
1979	16,727	16,708	-38	-2.3	192	11.5	230	13.8
1980	16,689	16,672	-34	-2.1	195	11.7	230	13.8
1981	16,655	16,640	-31	-1.8	199	11.9	229	13.8
1982	16,624	16,611	-27	-1.6	202	12.1	228	13.8
1983	16,598	16,586	-24	-1.4	204	12.3	227	13.7
1984	16,574	16,563	-21	-1.3	205	12.4	226	13.7
1985	16,553	16,543	-19	-1.2	205	12.4	224	13.6
1986	16,533	16,525	-18	-1.1	204	12.4	222	13.4
1987	16,516	16,507	-17	-1.1	203	12.3	220	13.3
1988	16,498	16,489	-17	-1.1	201	12.2	218	13.2
1989	16,481	16,472	-18	-1.1	198	12.0	215	13.1
1990	16,463	16,455	-17	-1.0	194	11.8	211	12.8
1991	16,446	16,438	-17	-1.0	189	11.5	206	12.6
1992	16,429	16,420	-18	-1.1	184	11.2	202	12.3
1993	16,411	16,401	-20	-1.2	179	10.9	199	12.1
1994	16,392	16,379	-24	-1.5	174	10.6	198	12.1
1995	16,367	16,352	-30	-1.8	170	10.4	200	12.2
1996	16,338	16,320	-34	-2.1	166	10.2	201	12.3
1997	16,303	16,284	-37	-2.3	164	10.1	201	12.4
1998	16,266	16,246	-39	-2.4	162	10.0	201	12.4
1999	16,226	16,206	-41	-2.5	161	9.9	201	12.4
2000	16,185	16,164	-42	-2.6	160	9.9	202	12.5

See footnotes at end of table.

TABLE I-D.—ESTIMATED AND PROJECTED TOTAL POPULATION, COMPONENTS OF POPULATION CHANGE, AND VITAL RATES—EAST GERMANY: 1950-2000—Continued

Year	Population		Natural increase		Births		Deaths	
	Jan. 1	July 1	Number	Rate <sup>2</sup>	Number	Rate <sup>2</sup>	Number	Rate <sup>2</sup>
Projections—Constant series:								
1976.....	16,857	16,834	-46	-2.7	182	10.8	228	13.6
1977.....	16,811	16,789	-45	-2.7	184	11.0	229	13.7
1978.....	16,766	16,745	-43	-2.6	187	11.1	229	13.7
1979.....	16,724	16,703	-40	-2.4	189	11.3	230	13.8
1980.....	16,683	16,664	-37	-2.2	192	11.5	229	13.8
1981.....	16,646	16,629	-34	-2.1	195	11.7	229	13.8
1982.....	16,611	16,596	-31	-1.9	197	11.9	228	13.8
1983.....	16,580	16,566	-29	-1.7	199	12.0	227	13.7
1984.....	16,551	16,538	-27	-1.6	199	12.0	226	13.7
1985.....	16,524	16,511	-26	-1.6	199	12.0	224	13.6
1986.....	16,499	16,486	-25	-1.5	197	12.0	222	13.5
1987.....	16,474	16,461	-25	-1.5	195	11.8	220	13.4
1988.....	16,449	16,436	-25	-1.5	192	11.7	218	13.3
1989.....	16,423	16,410	-26	-1.6	189	11.5	215	13.1
1990.....	16,397	16,384	-26	-1.6	185	11.3	211	12.9
1991.....	16,371	16,358	-26	-1.6	180	11.0	206	12.6
1992.....	16,345	16,331	-27	-1.7	174	10.7	202	12.4
1993.....	16,317	16,302	-30	-1.8	169	10.4	199	12.2
1994.....	16,287	16,270	-34	-2.1	164	10.1	198	12.2
1995.....	16,253	16,233	-40	-2.5	159	9.8	200	12.3
1996.....	16,213	16,190	-45	-2.8	155	9.6	201	12.4
1997.....	16,168	16,143	-49	-3.0	152	9.4	201	12.5
1998.....	16,119	16,093	-51	-3.2	150	9.3	201	12.5
1999.....	16,068	16,041	-53	-3.3	148	9.2	201	12.5
2000.....	16,014	15,987	-55	-3.5	147	9.2	202	12.6

<sup>1</sup> The published population totals for the years 1951-64 have been revised downward here to account for the difference of approximately 212,000 between the Dec. 31, 1964, census total of 17,003,632 and the figure for that date implied by the unrevised official estimates. Although this difference could have been due to an undercount in the census or to errors in birth and death registration, it is more likely due to the underregistration of emigration since the 1950 census. Accordingly, the revised estimates are based on the Aug. 31, 1950, census total and adjustments to the implied annual net emigration figures so as to be consistent with the 1964 census total.

<sup>2</sup> Rates for the years 1951-64 are based on the published numbers of births and deaths and the revised midyear population totals. See note 1 above.

<sup>3</sup> Census of Aug. 31, 1950.

TABLE I-E.—ESTIMATED AND PROJECTED TOTAL POPULATION, COMPONENTS OF POPULATION CHANGE, AND VITAL RATES—HUNGARY: 1950-2000

[Absolute numbers in thousands; rates per 1,000 population. Differences between natural increase and year-to-year changes in the population estimates are due, in varying degrees, to migration and discrepancies in the reporting systems. Natural increase may not equal the difference between births and deaths due to rounding. See text for an explanation of the series.]

Year	Population		Natural increase		Births		Deaths	
	Jan. 1	July 1	Number	Rate	Number	Rate	Number	Rate
Estimates:								
1950.....	9,293	9,338	89	9.5	196	20.9	107	11.4
1951.....	9,383	9,423	81	8.5	191	20.2	110	11.7
1952.....	9,463	9,504	78	8.3	186	19.6	107	11.3
1953.....	9,545	9,595	95	9.9	207	21.6	112	11.7
1954.....	9,645	9,706	117	12.0	223	23.0	107	11.0
1955.....	9,767	9,825	113	11.4	210	21.4	98	10.0
1956.....	9,883	9,911	89	9.0	193	19.5	104	10.5
1957.....	9,829	9,839	64	6.5	167	17.0	104	10.5
1958.....	9,850	9,882	61	6.1	158	16.0	98	9.9
1959.....	9,913	9,937	47	4.7	151	15.2	104	10.5
1960.....	9,961	9,984	45	4.5	146	14.7	102	10.2
1961.....	10,007	10,029	44	4.4	140	14.0	96	9.6
1962.....	10,052	10,063	22	2.1	130	12.9	108	10.8
1963.....	10,074	10,091	32	3.2	132	13.1	100	9.9
1964.....	10,108	10,124	31	3.1	132	13.1	101	10.0
1965.....	10,140	10,153	25	2.4	133	13.1	108	10.7
1966.....	10,166	10,185	37	3.6	138	13.6	102	10.0
1967.....	10,203	10,223	39	3.9	149	14.6	110	10.7
1968.....	10,244	10,264	39	3.9	154	15.1	115	11.2
1969.....	10,284	10,303	38	3.6	154	15.0	117	11.4
1970.....	10,322	10,338	32	3.1	152	14.7	120	11.6
1971.....	10,354	10,368	28	2.6	151	14.5	123	11.9
1972.....	10,381	10,398	34	3.3	153	14.7	119	11.4
1973.....	10,416	10,432	33	3.2	156	15.0	123	11.8
1974.....	10,448	10,479	60	5.8	186	17.8	126	12.0
1975.....	10,509	10,539	63	6.0	194	18.4	131	12.4

TABLE I-E.—ESTIMATED AND PROJECTED TOTAL POPULATION, COMPONENTS OF POPULATION CHANGE, AND VITAL RATES—HUNGARY: 1950-2000—Continued

Year	Population		Natural increase		Births		Deaths	
	Jan. 1	July 1	Number	Rate <sup>2</sup>	Number	Rate <sup>2</sup>	Number	Rate <sup>2</sup>
<b>Projections—High series:</b>								
1976	10,590	10,631	81	7.6	210	19.7	128	12.1
1977	10,671	10,712	80	7.5	210	19.6	129	12.1
1978	10,752	10,791	78	7.3	209	19.3	130	12.1
1979	10,830	10,868	76	6.9	206	19.0	131	12.0
1980	10,906	10,942	72	6.6	203	18.6	131	12.0
1981	10,978	11,011	68	6.1	199	18.1	132	12.0
1982	11,045	11,077	63	5.7	195	17.6	132	12.0
1983	11,108	11,137	58	5.2	191	17.2	133	12.0
1984	11,166	11,193	54	4.8	188	16.8	134	11.9
1985	11,220	11,245	50	4.5	184	16.4	134	11.9
1986	11,270	11,294	48	4.2	182	16.1	135	11.9
1987	11,318	11,341	46	4.1	181	16.0	135	11.9
1988	11,364	11,387	45	4.0	181	15.9	135	11.9
1989	11,410	11,432	45	4.0	181	15.8	135	11.8
1990	11,455	11,479	47	4.1	181	15.8	134	11.7
1991	11,502	11,527	50	4.4	182	15.8	132	11.5
1992	11,553	11,579	54	4.6	184	15.9	131	11.3
1993	11,606	11,635	58	5.0	188	16.1	130	11.2
1994	11,664	11,694	61	5.2	193	16.5	132	11.3
1995	11,725	11,757	65	5.6	199	16.9	134	11.4
1996	11,790	11,825	70	6.0	206	17.4	136	11.5
1997	11,860	11,898	76	6.4	213	17.9	138	11.5
1998	11,936	11,977	81	6.8	220	18.3	138	11.6
1999	12,018	12,061	86	7.2	226	18.7	139	11.5
2000	12,104	12,149	91	7.5	231	19.0	140	11.6
<b>Projections—Medium series:</b>								
1976	10,572	10,603	62	5.9	190	17.9	128	12.0
1977	10,634	10,664	61	5.7	190	17.8	129	12.1
1978	10,695	10,724	58	5.4	188	17.5	130	12.1
1979	10,753	10,781	55	5.1	185	17.2	130	12.1
1980	10,808	10,834	51	4.7	182	16.8	131	12.1
1981	10,860	10,883	47	4.3	178	16.4	131	12.1
1982	10,907	10,928	42	3.9	174	15.9	132	12.1
1983	10,949	10,967	37	3.4	170	15.5	132	12.1
1984	10,986	11,002	33	3.0	165	15.1	133	12.1
1985	11,019	11,034	29	2.6	163	14.8	134	12.1
1986	11,048	11,061	27	2.4	160	14.5	134	12.1
1987	11,075	11,087	25	2.2	159	14.3	134	12.1
1988	11,099	11,111	24	2.1	158	14.2	135	12.1
1989	11,123	11,134	23	2.1	158	14.2	135	12.1
1990	11,146	11,158	24	2.2	158	14.1	133	11.9
1991	11,170	11,184	27	2.4	158	14.1	131	11.8
1992	11,197	11,211	29	2.6	159	14.2	130	11.6
1993	11,226	11,242	32	2.8	161	14.3	129	11.5
1994	11,258	11,274	33	2.9	164	14.6	131	11.6
1995	11,291	11,309	35	3.1	168	14.8	131	11.8
1996	11,326	11,344	37	3.3	172	15.1	135	11.9
1997	11,363	11,382	39	3.4	175	15.4	136	12.0
1998	11,402	11,422	41	3.6	179	15.6	137	12.0
1999	11,443	11,464	43	3.8	181	15.8	138	12.1
2000	11,486	11,508	44	3.8	184	15.9	139	12.1
<b>Projections—Low series:</b>								
1976	10,553	10,575	43	4.1	170	16.1	127	12.0
1977	10,596	10,617	41	3.9	169	16.0	128	12.1
1978	10,638	10,657	38	3.6	167	15.7	129	12.1
1979	10,676	10,693	35	3.3	164	15.4	129	12.1
1980	10,711	10,726	31	2.9	161	15.0	130	12.1
1981	10,742	10,755	26	2.4	157	14.6	131	12.1
1982	10,768	10,778	21	2.0	153	14.2	131	12.2
1983	10,789	10,797	17	1.5	148	13.7	132	12.2
1984	10,806	10,812	12	1.1	145	13.4	133	12.3
1985	10,818	10,822	8	.8	141	13.1	133	12.3
1986	10,826	10,829	5	.5	139	12.8	133	12.3
1987	10,831	10,833	3	.3	137	12.6	134	12.3
1988	10,834	10,835	2	.2	136	12.5	134	12.4
1989	10,836	10,836	1	.1	135	12.4	134	12.4
1990	10,837	10,837	2	.1	134	12.4	133	12.2
1991	10,838	10,840	3	.3	134	12.4	131	12.1
1992	10,841	10,844	5	.4	134	12.4	130	11.9
1993	10,846	10,849	6	.6	135	12.4	129	11.9
1994	10,852	10,855	6	.6	136	12.5	130	12.0
1995	10,858	10,861	5	.5	138	12.7	132	12.2
1996	10,864	10,866	5	.5	139	12.8	134	12.3
1997	10,869	10,871	4	.4	140	12.9	135	12.5
1998	10,873	10,875	4	.3	140	12.9	137	12.6
1999	10,877	10,878	3	.3	141	12.9	137	12.6
2000	10,880	10,881	2	.2	140	12.9	138	12.7

TABLE I-E.—ESTIMATED AND PROJECTED TOTAL POPULATION, COMPONENTS OF POPULATION CHANGE, AND VITAL RATES—HUNGARY: 1950-2000—Continued

Year	Population		Natural increase		Births		Deaths	
	Jan. 1	July 1	Number	Rate <sup>2</sup>	Number	Rate <sup>2</sup>	Number	Rate <sup>2</sup>
Projections—Constant series:								
1976	10,572	10,603	62	5.9	190	17.9	128	12.0
1977	10,634	10,664	61	5.7	190	17.8	129	12.1
1978	10,695	10,724	58	5.4	188	17.5	130	12.1
1979	10,753	10,781	55	5.1	185	17.2	130	12.1
1980	10,808	10,834	51	4.7	182	16.8	131	12.1
1981	10,860	10,883	47	4.3	178	16.4	131	12.1
1982	10,907	10,928	42	3.9	174	15.9	132	12.1
1983	10,949	10,968	37	3.4	170	15.5	132	12.1
1984	10,987	11,003	33	3.0	166	15.1	133	12.1
1985	11,020	11,034	29	2.7	163	14.8	134	12.1
1986	11,049	11,063	27	2.4	161	14.5	134	12.1
1987	11,076	11,088	25	2.2	159	14.4	134	12.1
1988	11,101	11,113	24	2.1	158	14.2	135	12.1
1989	11,124	11,136	23	2.1	158	14.2	135	12.1
1990	11,148	11,160	25	2.2	158	14.2	133	11.9
1991	11,172	11,186	27	2.4	158	14.2	132	11.8
1992	11,199	11,214	29	2.6	160	14.2	130	11.6
1993	11,229	11,245	32	2.9	162	14.4	129	11.5
1994	11,261	11,278	34	3.0	165	14.6	131	11.6
1995	11,294	11,312	35	3.1	168	14.9	133	11.7
1996	11,330	11,348	37	3.3	172	15.2	135	11.9
1997	11,367	11,387	39	3.5	176	15.4	136	12.0
1998	11,406	11,427	41	3.6	179	15.7	137	12.0
1999	11,448	11,470	44	3.8	182	15.9	138	12.1
2000	11,491	11,514	45	3.9	184	16.0	139	12.1

TABLE I-F.—ESTIMATED AND PROJECTED TOTAL POPULATION, COMPONENTS OF POPULATION CHANGE, AND VITAL RATES—POLAND: 1950-2000

[Absolute numbers in thousands; rates per 1,000 population. Differences between natural increase and year-to-year changes in the population estimates are due, in varying degrees, to migration and discrepancies in the reporting systems. Natural increase may not equal the difference between births and deaths due to rounding. See text for an explanation of the series.]

Year	Population <sup>1</sup>		Natural increase		Births		Deaths	
	Jan. 1	July 1	Number	Rate <sup>2</sup>	Number	Rate <sup>2</sup>	Number	Rate <sup>2</sup>
Estimates:								
1950	24,613	24,824	474	19.1	763	30.7	289	11.6
1951	25,035	25,271	471	18.6	784	31.0	312	12.4
1952	25,507	25,753	492	19.1	779	30.2	287	11.1
1953	25,999	26,255	512	19.5	779	29.7	267	10.2
1954	26,511	26,761	502	18.8	778	29.1	276	10.3
1955	27,012	27,281	532	19.5	794	29.1	262	9.6
1956	27,550	27,815	530	19.1	780	28.1	250	9.0
1957	28,080	28,310	513	18.1	782	27.6	269	9.5
1958	28,540	28,770	514	17.9	755	26.3	241	8.4
1959	29,000	29,240	470	16.1	723	24.7	252	8.6
1960	29,480	29,561	445	15.0	669	22.6	224	7.6
1961	29,795	29,978	400	13.3	628	20.9	228	7.6
1962	30,161	30,329	360	11.9	600	19.8	239	7.9
1963	30,497	30,663	358	11.7	588	19.2	230	7.5
1964	30,829	30,976	327	10.6	563	18.2	236	7.6
1965	31,124	31,261	314	10.0	546	17.5	232	7.4
1966	31,399	31,528	297	9.4	530	16.8	233	7.4
1967	31,657	31,780	273	8.6	520	16.4	248	7.8
1968	31,903	32,031	280	8.7	524	16.4	244	7.6
1969	32,158	32,277	268	8.3	531	16.5	263	8.1
1970	32,397	32,526	279	8.6	546	16.8	267	8.2
1971	32,658	32,805	279	8.5	562	17.1	284	8.6
1972	32,909	33,068	310	9.4	576	17.4	265	8.0
1973	33,202	33,363	321	9.6	599	17.9	277	8.3
1974	33,512	33,691	344	10.2	621	18.4	277	8.2
1975	33,846	34,032	347	10.2	644	18.9	297	8.7

See footnotes at end of table.

TABLE I-F.—ESTIMATED AND PROJECTED TOTAL POPULATION, COMPONENTS OF POPULATION CHANGE, AND VITAL RATES—POLAND: 1950-2000—Continued

Year	Population <sup>1</sup>		Natural increase		Births		Deaths	
	Jan. 1	July 1	Number	Rate <sup>2</sup>	Number	Rate <sup>2</sup>	Number	Rate <sup>2</sup>
<b>Projections—High series:</b>								
1976	34,263	34,479	433	12.5	725	21.0	293	8.5
1977	34,696	34,918	445	12.7	744	21.3	299	8.6
1978	35,140	35,368	454	12.9	760	21.5	305	8.6
1979	35,595	35,825	460	12.8	772	21.5	311	8.7
1980	36,055	36,286	462	12.7	779	21.5	317	8.7
1981	36,517	36,747	459	12.5	781	21.3	322	8.8
1982	36,976	37,202	452	12.1	779	21.0	328	8.8
1983	37,428	37,649	442	11.8	775	20.6	332	8.8
1984	37,870	38,086	431	11.3	768	20.2	336	8.8
1985	38,302	38,511	418	10.9	759	19.7	341	8.8
1986	38,720	38,923	406	10.4	750	19.3	344	8.8
1987	39,126	39,322	393	10.0	740	18.8	347	8.8
1988	39,519	39,709	381	9.6	731	18.4	350	8.8
1989	39,900	40,085	371	9.3	723	18.0	352	8.9
1990	40,271	40,453	364	9.0	717	17.7	353	8.9
1991	40,635	40,815	360	8.8	713	17.5	354	8.9
1992	40,995	41,174	358	8.7	711	17.3	353	8.9
1993	41,353	41,532	358	8.6	714	17.2	356	8.9
1994	41,711	41,891	360	8.6	720	17.2	361	8.9
1995	42,070	42,253	364	8.6	732	17.3	368	8.9
1996	42,435	42,622	374	8.8	748	17.5	374	8.9
1997	42,809	43,001	385	9.0	767	17.8	382	8.9
1998	43,193	43,393	398	9.2	788	18.2	390	9.0
1999	43,592	43,798	413	9.4	810	18.5	397	9.1
2000	44,005	44,219	428	9.7	832	18.8	405	9.2
<b>Projections—Medium series:</b>								
1976	34,200	34,383	366	10.6	657	19.1	291	8.5
1977	34,566	34,753	375	10.8	672	19.3	298	8.6
1978	34,941	35,131	381	10.8	685	19.5	304	8.6
1979	35,321	35,513	383	10.8	693	19.5	310	8.7
1980	35,705	35,896	382	10.7	698	19.4	315	8.8
1981	36,087	36,276	377	10.4	698	19.2	321	8.8
1982	36,464	36,648	368	10.0	694	18.9	326	8.9
1983	36,832	37,011	357	9.7	688	18.6	330	8.9
1984	37,190	37,362	345	9.2	680	18.2	335	9.0
1985	37,535	37,700	331	8.8	670	17.8	339	9.0
1986	37,866	38,025	318	8.4	660	17.4	342	9.0
1987	38,184	38,336	304	7.9	650	16.9	346	9.0
1988	38,488	38,634	292	7.6	640	16.6	348	9.0
1989	38,780	38,920	281	7.2	631	16.2	350	9.0
1990	39,060	39,197	273	7.0	624	15.9	351	8.9
1991	39,333	39,467	267	6.8	618	15.7	351	8.9
1992	39,600	39,732	263	6.6	615	15.5	352	8.9
1993	39,863	39,994	261	6.5	615	15.4	354	8.9
1994	40,124	40,253	258	6.4	617	15.3	359	8.9
1995	40,382	40,510	256	6.3	621	15.3	362	9.0
1996	40,638	40,766	256	6.3	628	15.4	372	9.1
1997	40,894	41,023	257	6.3	637	15.5	380	9.1
1998	41,151	41,281	259	6.3	646	15.6	387	9.2
1999	41,410	41,541	262	6.3	656	15.8	394	9.3
2000	41,672	41,804	264	6.3	666	15.9	402	9.4
<b>Projections—Low series:</b>								
1976	34,137	34,287	300	8.7	589	17.2	290	8.5
1977	34,436	34,589	304	8.8	601	17.4	296	8.6
1978	34,741	34,894	307	8.8	609	17.5	302	8.7
1979	35,048	35,201	307	8.7	615	17.5	308	8.8
1980	35,354	35,506	303	8.5	616	17.4	313	8.8
1981	35,657	35,805	295	8.2	614	17.1	319	8.9
1982	35,952	36,095	285	7.9	609	16.9	324	9.0
1983	36,237	36,373	272	7.5	601	16.5	329	9.0
1984	36,509	36,639	259	7.1	591	16.1	333	9.1
1985	36,768	36,890	244	6.6	581	15.7	337	9.1
1986	37,012	37,127	230	6.2	570	15.4	340	9.2
1987	37,242	37,349	215	5.8	559	15.0	344	9.2
1988	37,457	37,558	202	5.4	548	14.6	346	9.2
1989	37,659	37,754	190	5.0	539	14.3	349	9.2
1990	37,849	37,940	182	4.8	530	14.0	349	9.2
1991	38,031	38,118	175	4.6	524	13.7	349	9.2
1992	38,206	38,290	169	4.4	519	13.6	350	9.1
1993	38,374	38,456	164	4.3	516	13.4	352	9.1
1994	38,538	38,617	157	4.1	513	13.3	357	9.2
1995	38,696	38,770	149	3.9	513	13.2	363	9.4
1996	38,845	38,916	143	3.7	512	13.2	370	9.5
1997	38,988	39,055	135	3.5	512	13.1	377	9.7
1998	39,123	39,187	128	3.3	513	13.1	385	9.8
1999	39,251	39,311	121	3.1	513	13.1	392	10.0
2000	39,372	39,429	115	2.9	514	13.0	399	10.1

See footnotes at end of table.

TABLE I-F.—ESTIMATED AND PROJECTED TOTAL POPULATION, COMPONENTS OF POPULATION CHANGE, AND VITAL RATES—POLAND: 1950-2000—Continued

Year	Population <sup>1</sup>		Natural increase		Births		Deaths	
	Jan. 1	July 1	Number	Rate <sup>2</sup>	Number	Rate <sup>2</sup>	Number	Rate <sup>2</sup>
Projection—Constant series:								
1976	34, 200	34, 383	366	10.6	657	19.1	291	8.5
1977	34, 566	34, 753	374	10.8	672	19.3	298	8.6
1978	34, 940	35, 130	380	10.8	684	19.5	304	8.6
1979	35, 320	35, 511	382	10.8	692	19.5	310	8.7
1980	35, 702	35, 893	381	10.6	696	19.4	315	8.8
1981	36, 083	36, 271	375	10.4	696	19.2	321	8.8
1982	36, 459	36, 642	366	10.0	692	18.9	326	8.9
1983	36, 825	37, 002	355	9.6	686	18.5	330	8.9
1984	37, 180	37, 351	342	9.2	677	18.1	335	9.0
1985	37, 522	37, 687	328	8.7	667	17.7	339	9.0
1986	37, 851	38, 008	315	8.3	657	17.3	342	9.0
1987	38, 166	38, 316	301	7.9	646	16.9	345	9.0
1988	38, 467	38, 611	288	7.5	636	16.5	348	9.0
1989	38, 755	38, 894	277	7.1	627	16.1	350	9.0
1990	39, 032	39, 167	269	6.9	620	15.8	351	9.0
1991	39, 302	39, 433	263	6.7	614	15.6	351	8.9
1992	39, 565	39, 695	259	6.5	611	15.4	352	8.9
1993	39, 824	39, 952	257	6.4	610	15.3	354	8.9
1994	40, 081	40, 207	253	6.3	612	15.2	359	8.9
1995	40, 334	40, 459	251	6.2	616	15.2	365	9.0
1996	40, 585	40, 710	251	6.2	623	15.3	372	9.1
1997	40, 836	40, 962	251	6.1	631	15.4	379	9.3
1998	41, 087	41, 214	253	6.1	640	15.5	387	9.4
1999	41, 340	41, 468	255	6.2	650	15.7	394	9.5
2000	41, 595	41, 724	257	6.2	659	15.8	402	9.6

<sup>1</sup> The published population totals for the years 1961-70 have been revised downward here to account for the difference of approximately 270,000 between the Dec. 8, 1970, census total of 32,642,270 and the figure for that date implied by the un-revised official estimates. Although this difference could have been due to an undercount in the census or to errors in birth and death registration, it is more likely due to the underregistration of emigration since the 1960 census. Accordingly, the revised estimates are based on the Dec. 6, 1960, census total and adjustments to the annual net emigration figures so as to be consistent with the 1970 census total.

<sup>2</sup> Rates for the years 1961-70 are based on the published numbers of births and deaths and the revised midyear population totals. See note 1 above.

TABLE I-G.—ESTIMATED AND PROJECTED TOTAL POPULATION, COMPONENTS OF POPULATION CHANGE, AND VITAL RATES—ROMANIA: 1950-2000

[Absolute numbers in thousands; rates per 1,000 population. Differences between natural increase and year-to-year changes in the population estimates are due, in varying degrees, to migration and discrepancies in the reporting systems. Natural increase may not equal the difference between births and deaths due to rounding. See text for an explanation of the series.]

Year	Population		Natural increase		Births		Deaths	
	Jan. 1	July 1	Number	Rate	Number	Rate	Number	Rate
Estimates:								
1950	16, 204	16, 311	225	13.8	427	26.2	202	12.4
1951	16, 400	16, 464	203	12.3	413	25.1	210	12.8
1952	16, 547	16, 630	218	13.1	413	24.8	195	11.7
1953	16, 738	16, 847	207	12.2	402	23.8	195	11.6
1954	16, 944	17, 040	227	13.3	422	24.8	195	11.6
1955	17, 181	17, 325	275	15.9	443	25.6	168	9.7
1956	17, 457	17, 583	251	14.3	426	24.2	175	9.9
1957	17, 712	17, 829	226	12.7	408	22.9	182	10.2
1958	17, 936	18, 056	234	12.9	390	21.6	157	8.7
1959	18, 150	18, 226	181	10.0	368	20.2	187	10.2
1960	18, 319	18, 403	192	10.4	352	19.1	161	8.7
1961	18, 495	18, 567	163	8.8	325	17.5	162	8.7
1962	18, 632	18, 681	130	7.0	302	16.2	172	9.2
1963	18, 749	18, 813	139	7.4	295	15.7	156	8.3
1964	18, 875	18, 927	135	7.1	287	15.2	152	8.1
1965	18, 980	19, 027	115	6.0	278	14.6	163	8.6
1966	19, 084	19, 141	116	6.1	274	14.3	157	8.2
1967	19, 195	19, 285	349	18.1	528	27.4	179	9.3
1968	19, 542	19, 721	338	17.1	526	26.7	189	9.6
1969	19, 879	20, 010	265	13.2	466	23.3	201	10.1
1970	20, 140	20, 253	234	11.6	427	21.1	193	9.5
1971	20, 361	20, 470	206	10.0	400	19.5	194	9.5
1972	20, 562	20, 663	199	9.6	389	18.8	190	9.2
1973	20, 754	20, 828	175	8.4	379	18.2	204	9.8
1974	20, 917	21, 029	236	11.2	428	20.3	191	9.1
1975	21, 141	21, 245	221	10.4	418	19.7	198	9.3

TABLE I-G.—ESTIMATED AND PROJECTED TOTAL POPULATION, COMPONENTS OF POPULATION CHANGE, AND VITAL RATES—ROMANIA: 1950-2000—Continued

Year	Population		Natural increase		Births		Deaths	
	Jan. 1	July 1	Number	Rate	Number	Rate	Number	Rate
<b>Projections—High series:</b>								
1976	21,369	21,484	229	10.7	432	20.1	203	9.5
1977	21,598	21,713	229	10.6	436	20.1	207	9.5
1978	21,827	21,941	227	10.4	437	19.9	210	9.6
1979	22,055	22,167	224	10.1	437	19.7	213	9.6
1980	22,278	22,387	218	9.7	434	19.4	216	9.7
1981	22,496	22,601	211	9.3	430	19.0	219	9.7
1982	22,707	22,808	203	8.9	425	18.6	222	9.7
1983	22,909	23,007	195	8.5	420	18.2	225	9.8
1984	23,104	23,199	190	8.2	417	18.0	227	9.8
1985	23,294	23,389	189	8.1	418	17.9	230	9.8
1986	23,483	23,579	192	8.1	424	18.0	232	9.9
1987	23,675	23,774	198	8.3	433	18.2	235	9.9
1988	23,873	23,976	207	8.6	444	18.5	237	9.9
1989	24,080	24,188	216	8.9	455	18.8	239	9.9
1990	24,296	24,408	225	9.2	464	19.0	240	9.8
1991	24,521	24,637	232	9.4	471	19.1	239	9.7
1992	24,752	24,871	237	9.5	476	19.1	239	9.6
1993	24,990	25,110	241	9.6	480	19.1	239	9.5
1994	25,231	25,352	242	9.5	484	19.1	242	9.6
1995	25,472	25,593	242	9.4	489	19.1	247	9.6
1996	25,714	25,835	242	9.4	494	19.1	252	9.8
1997	25,956	26,077	242	9.3	499	19.1	257	9.9
1998	26,198	26,319	243	9.2	505	19.2	262	10.0
1999	26,441	26,562	243	9.1	510	19.2	267	10.1
2000	26,683	26,804	242	9.0	514	19.2	271	10.1
<b>Projections—Medium series:</b>								
1976	21,349	21,452	206	9.6	409	19.1	202	9.4
1977	21,555	21,657	205	9.4	410	19.0	206	9.5
1978	21,760	21,860	201	9.2	410	18.8	209	9.6
1979	21,961	22,058	195	8.9	408	18.5	212	9.6
1980	22,156	22,250	188	8.5	403	18.1	215	9.7
1981	22,344	22,434	180	8.0	398	17.7	218	9.7
1982	22,524	22,609	170	7.5	391	17.3	221	9.8
1983	22,694	22,775	161	7.1	385	16.9	223	9.8
1984	22,855	22,933	155	6.7	381	16.6	226	9.9
1985	23,010	23,086	152	6.6	380	16.5	228	9.9
1986	23,162	23,238	153	6.6	384	16.5	231	9.9
1987	23,314	23,393	157	6.7	390	16.7	233	10.0
1988	23,471	23,552	162	6.9	398	16.9	236	10.0
1989	23,633	23,718	169	7.1	406	17.1	237	10.0
1990	23,802	23,889	174	7.3	412	17.2	238	10.0
1991	23,976	24,065	179	7.4	416	17.3	239	9.9
1992	24,155	24,245	181	7.5	418	17.2	237	9.8
1993	24,336	24,427	182	7.4	419	17.1	237	9.7
1994	24,518	24,607	179	7.3	419	17.0	240	9.8
1995	24,697	24,784	175	7.1	420	16.9	245	9.9
1996	24,871	24,957	170	6.8	420	16.8	250	10.0
1997	25,042	25,125	166	6.6	420	16.7	255	10.1
1998	25,208	25,288	161	6.4	421	16.6	259	10.3
1999	25,369	25,447	156	6.1	420	16.5	264	10.4
2000	25,525	25,600	151	5.9	419	16.4	269	10.5
<b>Projections—Low series:</b>								
1976	21,328	21,420	184	8.6	385	18.0	202	9.4
1977	21,512	21,602	180	8.3	385	17.8	205	9.5
1978	21,692	21,779	175	8.0	383	17.6	208	9.6
1979	21,866	21,950	167	7.6	379	17.2	211	9.6
1980	22,034	22,113	159	7.2	373	16.9	214	9.7
1981	22,192	22,267	149	6.7	365	16.4	217	9.7
1982	22,341	22,410	138	6.2	357	15.9	219	9.8
1983	22,479	22,543	128	5.7	350	15.5	222	9.9
1984	22,606	22,666	120	5.3	344	15.2	225	9.9
1985	22,726	22,783	115	5.0	342	15.0	227	10.0
1986	22,841	22,897	113	4.9	343	15.0	230	10.0
1987	22,954	23,011	115	5.0	347	15.1	232	10.1
1988	23,069	23,128	118	5.1	352	15.2	234	10.1
1989	23,187	23,247	121	5.2	357	15.3	236	10.1
1990	23,308	23,370	124	5.3	360	15.4	236	10.1
1991	23,431	23,494	125	5.3	361	15.4	236	10.0
1992	23,557	23,619	126	5.3	360	15.3	235	9.9
1993	23,682	23,744	123	5.2	358	15.1	235	9.9
1994	23,805	23,863	117	4.9	355	14.9	238	10.0
1995	23,922	23,977	109	4.6	352	14.7	242	10.0
1996	24,031	24,082	101	4.2	348	14.4	247	10.3
1997	24,132	24,178	92	3.8	344	14.2	252	10.4
1998	24,224	24,266	83	3.4	340	14.0	257	10.6
1999	24,307	24,344	74	3.0	335	13.8	261	10.7
2000	24,381	24,414	65	2.6	330	13.5	266	10.9

TABLE I-G.—ESTIMATED AND PROJECTED TOTAL POPULATION, COMPONENTS OF POPULATION CHANGE, AND VITAL RATES—ROMANIA: 1950-2000—Continued

Year	Population		Natural increase		Births		Deaths	
	Jan. 1	July 1	Number	Rate	Number	Rate	Number	Rate
Projections—Constant series:								
1976.....	21,369	21,484	229	10.7	432	20.1	203	9.5
1977.....	21,598	21,713	229	10.5	436	20.1	207	9.5
1978.....	21,827	21,941	227	10.3	437	19.9	210	9.6
1979.....	22,054	22,166	223	10.1	436	19.7	213	9.6
1980.....	22,277	22,386	217	9.7	434	19.4	216	9.7
1981.....	22,495	22,600	210	9.3	429	19.0	219	9.7
1982.....	22,705	22,806	202	8.9	424	18.6	222	9.7
1983.....	22,906	23,004	194	8.4	419	18.2	225	9.8
1984.....	23,101	23,195	189	8.1	416	17.9	227	9.8
1985.....	23,200	23,384	188	8.0	417	17.9	230	9.8
1986.....	23,477	23,573	191	8.1	423	17.9	232	9.9
1987.....	23,668	23,766	197	8.3	432	18.2	235	9.9
1988.....	23,865	23,968	206	8.6	443	18.5	237	9.9
1989.....	24,071	24,178	215	8.9	454	18.8	239	9.9
1990.....	24,285	24,397	223	9.1	462	19.0	240	9.8
1991.....	24,508	24,623	230	9.3	469	19.1	239	9.7
1992.....	24,738	24,856	236	9.5	474	19.1	239	9.6
1993.....	24,974	25,093	239	9.5	478	19.0	239	9.5
1994.....	25,212	25,332	239	9.5	482	19.0	242	9.6
1995.....	25,452	25,572	239	9.4	486	19.0	247	9.7
1996.....	25,691	25,811	239	9.3	491	19.0	252	9.8
1997.....	25,931	26,050	239	9.2	496	19.1	257	9.9
1998.....	26,170	26,290	240	9.1	502	19.1	262	10.0
1999.....	26,410	26,529	240	9.0	506	19.1	267	10.1
2000.....	26,649	26,769	239	8.9	510	19.1	271	10.1

TABLE II-A.—PROJECTED POPULATION, BY 5-YR AGE GROUPS AND SEX—6 EASTERN EUROPEAN COUNTRIES COMBINED, 1976-2001

[Numbers in thousands as of Jan. 1. Figures may not add to totals due to rounding. See text for an explanation of the series]

Age and series	Both sexes						Male						Female					
	1976	1981	1986	1991	1996	2001	1976	1981	1986	1991	1996	2001	1976	1981	1986	1991	1996	2001
All ages:																		
High.....	106,775	111,560	116,093	120,364	124,879	129,985	51,809	54,308	56,722	59,030	61,429	64,129	54,966	57,253	59,371	61,334	63,450	65,856
Medium.....	106,625	110,531	114,009	117,076	120,157	123,230	51,732	53,781	55,654	57,345	59,010	60,667	54,893	56,751	58,355	59,731	61,148	62,563
Low.....	106,471	109,474	111,883	113,736	115,392	116,544	51,653	53,239	54,565	55,634	56,568	57,241	54,818	56,235	57,318	58,102	58,824	59,303
Constant.....	106,637	110,605	114,135	117,270	120,482	123,772	51,738	53,818	55,718	57,444	59,176	60,945	54,899	56,787	58,416	59,826	61,306	62,827
Under 5 yr:																		
High.....	8,747	10,245	10,279	10,169	10,376	11,335	4,483	5,250	5,270	5,216	5,324	5,819	4,264	4,995	5,010	4,953	5,052	5,516
Medium.....	8,598	9,364	9,221	8,960	8,936	9,293	4,406	4,798	4,727	4,596	4,585	4,770	4,191	4,566	4,494	4,365	4,351	4,522
Low.....	8,483	8,460	8,149	7,742	7,504	7,364	4,327	4,335	4,177	3,971	3,850	3,780	4,116	4,125	3,971	3,771	3,654	3,584
Constant.....	8,610	9,426	9,273	9,030	9,067	9,512	4,413	4,830	4,754	4,631	4,652	4,883	4,197	4,596	4,519	4,399	4,415	4,629
5 to 9 yr:																		
High.....		8,710	10,208	10,246	10,139	10,350		4,460	5,227	5,250	5,198	5,309		4,250	4,981	4,997	4,941	5,041
Medium.....		8,562	9,330	9,191	8,934	8,914		4,384	4,777	4,709	4,580	4,572		4,177	4,552	4,482	4,354	4,342
Low.....		8,408	8,429	8,122	7,720	7,485	4,228	4,306	4,316	4,161	3,957	3,839		4,103	4,113	3,961	3,762	3,646
Constant.....		8,573	9,391	9,243	9,003	9,041		4,390	4,809	4,736	4,615	4,639		4,183	4,582	4,507	4,388	4,405
10 to 14 yr:																		
High.....		8,698	10,195	10,235	10,130			4,452	5,218	5,242	5,191			4,246	4,977	4,993	4,993	4,938
Medium.....		8,562	9,319	9,181	8,926		4,051	4,376	4,770	4,702	4,574			4,174	4,549	4,479	4,351	4,351
Low.....		8,397	8,419	8,114	7,712		4,219	4,298	4,309	4,155	3,952		3,859	4,033	4,099	4,110	3,958	3,760
Constant.....		8,562	9,380	9,233	8,994			4,382	4,801	4,729	4,609			4,179	4,579	4,504	4,385	4,385
15 to 19 yr:																		
High.....		8,682	10,179	10,221				4,440	5,206	5,231				4,242	4,973	4,993	4,990	4,990
Medium.....		8,535	9,304	9,168			4,601	4,365	4,758	4,692				4,170	4,545	4,476	4,351	4,351
Low.....		8,382	8,405	8,102			4,038	4,287	4,299	4,146			4,410	4,095	4,107	3,956	3,760	3,760
Constant.....		8,547	9,365	9,220				4,371	4,790	4,718				4,176	4,575	4,501	4,385	4,385
20 to 24 yr:																		
High.....		8,659	10,154					4,421	5,185					4,238	4,969	4,989	4,989	4,989
Medium.....		8,512	9,281				4,824	4,346	4,739				4,645	4,403	3,850	4,024	4,024	4,024
Low.....		8,359	8,385				4,575	4,268	4,282					4,091	4,172	4,103	3,956	3,956
Constant.....		8,523	9,342					4,352	4,771					4,172	4,571	4,501	4,385	4,385
25 to 29 yr:																		
High.....		8,631						4,398						4,238	4,969	4,989	4,989	4,989
Medium.....		8,485					4,143	4,323					4,035	4,636	4,395	3,844	4,019	4,019
Low.....		8,332					4,790	4,246						4,091	4,172	4,103	3,956	3,956
Constant.....		8,496						4,329						4,172	4,571	4,501	4,385	4,385
30 to 34 yr.....	6,538	8,135	9,379	8,899	7,802	8,150	3,281	4,110	4,754	4,513	3,966	4,138	3,257	4,024	4,624	4,386	3,836	4,012
35 to 39 yr.....	7,081	6,491	8,080	9,319	8,846	7,759	3,528	3,248	4,071	4,711	4,475	3,935	3,552	3,243	4,009	4,608	4,371	3,825
40 to 44 yr.....	7,025	7,005	6,425	8,003	9,234	8,769	3,497	3,477	3,203	4,018	4,652	4,421	3,527	3,528	3,222	3,985	4,582	4,348
45 to 49 yr.....	6,945	6,908	6,893	6,327	7,887	8,906	3,372	3,421	3,404	3,138	3,940	4,566	3,573	3,487	3,489	3,189	3,947	4,540
50 to 54 yr.....	6,342	6,766	6,734	6,727	6,179	7,713	2,904	3,258	3,308	3,296	3,041	3,825	3,438	3,508	3,426	3,431	3,138	3,888
55 to 59 yr.....	3,977	6,086	6,498	6,473	6,475	5,954	1,768	2,747	3,087	3,138	3,132	2,893	2,209	3,339	3,411	3,335	3,343	3,061
60 to 64 yr.....	5,064	3,725	5,700	6,091	6,074	6,086	2,215	1,616	2,510	2,827	2,879	2,878	2,849	2,109	3,190	3,263	3,195	3,208
65 to 69 yr.....	4,795	4,521	3,350	5,123	5,480	5,474	2,069	1,895	1,395	2,166	2,448	2,498	2,726	2,626	1,956	2,958	3,032	2,975
70 to 74 yr.....	3,599	3,975	3,755	2,817	4,298	4,604	1,491	1,612	1,477	1,102	1,709	1,941	2,108	2,363	2,278	1,714	2,589	2,662
75 yr and over.....	3,830	4,444	5,049	5,245	4,832	5,550	1,352	1,591	1,794	1,816	1,632	1,900	2,478	2,853	3,255	3,428	3,200	3,650

TABLE II-B.—PROJECTED POPULATION, BY 5-YR AGE GROUPS AND SEX—BULGARIA: 1976-2001

[Numbers in thousands as of Jan. 1. Figures may not add to totals due to rounding. See text for an explanation of the series]

Age and series	Both sexes						Male						Female								
	1976	1981	1986	1991	1996	2001	1976	1981	1986	1991	1996	2001	1976	1981	1986	1991	1996	2001			
All ages:																					
High.....	8 787	9 156	9 478	9 770	10 100	10 489	4 387	4 568	4 726	4 869	5 032	5 227	4 400	4 589	4 752	4 901	5 068	5 261			
Medium.....	8 773	9 062	9 295	9 488	9 697	9 906	4 379	4 519	4 632	4 725	4 825	4 928	4 393	4 543	4 663	4 763	4 871	4 977			
Low.....	8 758	8 967	9 111	9 206	9 296	9 339	4 372	4 471	4 537	4 580	4 620	4 638	4 386	4 497	4 574	4 626	4 676	4 701			
Constant.....	8 773	9 062	9 296	9 490	9 701	9 912	4 379	4 520	4 632	4 726	4 828	4 932	4 393	4 543	4 664	4 765	4 874	4 981			
Under 5 yr:																					
High.....	704	808	797	792	837	932	361	415	409	407	430	479	343	393	388	386	407	453			
Medium.....	689	728	707	694	715	751	354	374	363	356	367	386	335	354	344	338	348	365			
Low.....	674	648	618	595	595	585	346	333	317	305	306	301	328	316	301	289	290	285			
Constant.....	689	728	708	695	717	754	354	374	364	357	368	387	335	355	345	338	349	367			
5 to 9 yr:																					
High.....	641	701	805	794	790	835	329	359	413	407	405	429	312	341	392	387	385	407			
Medium.....		686	725	705	691	713		352	372	362	355	366		334	353	343	337	347			
Low.....		672	646	616	593	594		345	331	316	304	305		327	314	300	289				
Constant.....		686	726	706	693	715		352	372	362	355	367		334	353	344	337	348			
10 to 14 yr:																					
High.....	632	640	700	804	793	789	324	328	359	412	407	405	308	312	341	392	386	384			
Medium.....			685	724	704	691			351	371	361	354			334	353	343	336			
Low.....			670	645	615	592			344	331	316	304			327	314	300	288			
Constant.....			685	725	705	692			351	371	362	355			334	353	343	337			
15 to 19 yr:																					
High.....	661	630	639	698	802	792	338	323	327	358	411	406	324	307	312	340	391	386			
Medium.....				684	723	703				350	370	360				333	353	343			
Low.....				669	644	614				343	330	315				326	314	300			
Constant.....				684	723	704				350	371	361				333	353	343			
20 to 24 yr:																					
High.....	677	659	628	637	696	800	344	336	322	326	356	409	334	323	307	311	340	391			
Medium.....					682	721					349	369					333	326	314		
Low.....					667	642					341	328					314	307	311		
Constant.....					682	721					349	369					333	326	314		
25 to 29 yr:																					
High.....	685	674	656	626	694	800	345	341	334	320	324	355	340	333	322	306	311	340			
Medium.....					680	721						347						340	333	322	306
Low.....					665	642						340						326	314	307	311
Constant.....					680	721						347						340	333	322	306
30 to 34 yr.....	569	681	671	653	623	632	285	343	339	332	318	322	284	338	332	322	306	310			
35 to 39 yr.....	576	565	677	667	650	620	289	283	340	336	329	316	288	283	337	331	321	305			
40 to 44 yr.....	648	571	560	671	662	645	325	285	279	336	333	326	323	286	281	335	329	319			
45 to 49 yr.....	637	639	562	552	663	654	319	319	280	274	331	328	318	320	283	278	332	328			
50 to 54 yr.....	587	622	624	550	541	650	290	309	310	272	267	322	297	313	314	278	328	328			
55 to 59 yr.....	355	565	599	602	531	524	175	276	294	272	260	256	181	288	304	307	272	268			
60 to 64 yr.....	463	334	530	563	568	502	229	161	255	272	274	241	235	172	275	291	294	261			
65 to 69 yr.....	400	415	301	478	508	514	191	199	142	224	239	241	209	215	159	254	269	273			
70 to 74 yr.....	272	330	343	252	400	426	126	152	159	114	180	193	149	178	184	137	220	233			
75 yr and over.....	279	324	386	429	400	479	117	138	165	184	169	201	161	185	221	246	232	278			

TABLE II-C.—PROJECTED POPULATION, BY 5-YR AGE GROUPS AND SEX—CZECHOSLOVAKIA: 1976-2001

[Numbers in thousands as of Jan. 1. Figures may not add to totals due to rounding. See text for an explanation of the series]

Age and series	Both sexes						Male						Female						
	1976	1981	1986	1991	1996	2001	1976	1981	1986	1991	1996	2001	1976	1981	1986	1991	1996	2001	
All ages:																			
High	14,881	15,550	16,134	16,683	17,320	18,136	7,249	7,584	7,881	8,165	8,490	8,909	7,632	7,967	8,253	8,517	8,830	9,228	
Medium	14,866	15,444	15,909	16,311	16,758	17,288	7,241	7,529	7,766	7,975	8,202	8,475	7,625	7,915	8,143	8,336	8,555	8,814	
Low	14,837	15,261	15,560	15,784	16,019	16,247	7,227	7,435	7,588	7,705	7,824	7,942	7,611	7,825	7,972	8,078	8,194	8,305	
Constant	14,866	15,459	15,963	16,426	16,962	17,623	7,241	7,537	7,794	8,034	8,307	8,646	7,625	7,922	8,169	8,392	8,655	8,977	
Under 5 yr.:																			
High	1,330	1,512	1,451	1,420	1,485	1,699	681	774	743	727	761	871	649	738	708	693	724	828	
Medium	1,315	1,420	1,331	1,273	1,294	1,412	673	727	682	652	663	724	642	693	650	621	631	688	
Low	1,286	1,265	1,166	1,094	1,081	1,109	658	648	597	560	554	569	628	618	569	534	527	540	
Constant	1,315	1,435	1,370	1,335	1,383	1,543	673	735	702	684	709	791	642	701	669	651	674	752	
5 to 9 yr.:																			
High			1,325	1,508	1,447	1,417	1,483		678	771	741	726	760		647	737	707	692	723
Medium	1,069		1,311	1,416	1,328	1,271	1,292		671	724	680	651	662		640	692	648	620	630
Low			1,282	1,262	1,163	1,092	1,080		656	645	595	559	553		626	616	568	533	526
Constant			1,311	1,431	1,367	1,332	1,381		671	732	700	682	708		640	699	667	650	673
10 to 14 yr.:																			
High			1,324	1,506	1,446	1,416	1,416		677	770	740	725		647	736	706	706	691	706
Medium	1,103	1,067	1,309	1,415	1,327	1,270	1,270	564	670	723	679	650	539	640	691	648	620	620	620
Low			1,281	1,261	1,162	1,091	1,091		655	645	594	559		626	616	567	532	532	532
Constant			1,309	1,430	1,366	1,331	1,331		670	731	699	681		640	699	667	650	650	650
15 to 19 yr.:																			
High			1,321	1,504	1,444	1,444	1,444		675	768	738	738		646	736	706	706	691	706
Medium	1,133	1,101	1,307	1,413	1,325	1,275	1,275	577	668	722	678	678	556	639	691	648	625	625	625
Low			1,279	1,259	1,160	1,091	1,091		653	643	593	593		625	616	567	532	532	532
Constant			1,307	1,428	1,364	1,364	1,364		668	729	697	697		639	699	667	650	650	650
20 to 24 yr.:																			
High			1,318	1,501	1,446	1,416	1,416		672	765	735	735		646	736	706	706	691	706
Medium	1,268	1,129	1,304	1,410	1,327	1,275	1,275	644	665	719	685	685	624	639	691	648	625	625	625
Low			1,275	1,256	1,160	1,091	1,091		650	640	594	594		625	616	567	532	532	532
Constant			1,304	1,425	1,364	1,364	1,364		665	726	697	697		639	699	667	650	650	650
25 to 29 yr.:																			
High			1,314	1,500	1,446	1,416	1,416		672	765	735	735		646	736	706	706	691	706
Medium	1,241	1,263	1,300	1,410	1,327	1,275	1,275	627	662	719	685	685	614	623	691	648	625	625	625
Low			1,272	1,256	1,160	1,091	1,091		647	640	594	594		625	616	567	532	532	532
Constant			1,300	1,425	1,364	1,364	1,364		662	726	697	697		639	699	667	650	650	650
30 to 34 yr.:	1,009	1,235	1,257	1,120	1,089	1,055	507	623	635	566	552	535	502	612	622	554	537	520	520
35 to 39 yr.:	834	1,002	1,227	1,249	1,114	1,084	418	502	617	629	561	548	416	500	610	620	552	536	536
40 to 44 yr.:	864	825	992	1,215	1,238	1,104	429	411	495	608	621	554	435	413	497	607	617	550	550
45 to 49 yr.:	924	848	810	976	1,196	1,219	450	418	401	483	594	608	474	430	409	492	601	612	612
50 to 54 yr.:	943	899	826	790	952	1,168	451	433	403	387	467	575	493	466	422	403	485	593	593
55 to 59 yr.:	571	902	861	791	758	915	269	423	408	380	366	442	302	478	453	411	392	473	473
60 to 64 yr.:	758	530	837	801	737	708	349	243	381	368	343	332	410	288	456	433	393	376	376
65 to 69 yr.:	714	669	471	744	713	657	317	292	205	321	311	291	397	377	266	422	402	366	366
70 to 74 yr.:	539	582	546	390	614	590	221	239	220	157	245	238	318	343	326	233	369	352	352
75 yr and over:	580	661	737	757	680	778	200	228	253	255	223	257	380	434	484	502	457	521	521

TABLE II-D.—PROJECTED POPULATION, BY 5-YR AGE GROUPS AND SEX—EAST GERMANY, 1976-2001

[Numbers in thousands as of Jan. 1. Figures may not add to totals due to rounding. See text for an explanation of the series]

Age and series	Both sexes						Male						Female					
	1976	1981	1986	1991	1996	2001	1976	1981	1986	1991	1996	2001	1976	1981	1986	1991	1996	2001
All ages:																		
High.....	16,884	16,863	17,008	17,253	17,520	17,807	7,839	7,893	8,046	8,256	8,461	8,666	9,045	8,970	8,962	8,997	9,059	9,141
Medium.....	16,866	16,734	16,730	16,797	16,867	16,894	8,830	7,827	7,904	8,023	8,127	8,198	9,036	8,907	8,626	8,775	8,740	8,696
Low.....	16,857	16,655	16,533	16,446	16,338	16,143	7,825	7,786	7,803	7,843	7,855	7,813	9,032	8,859	8,730	8,604	8,482	8,330
Constant.....	16,857	16,646	16,499	16,371	16,213	15,959	7,825	7,782	7,785	7,804	7,791	7,719	9,032	8,864	8,713	8,567	8,421	8,240
Under 5 yr:																		
High.....	982	1,109	1,266	1,319	1,261	1,287	504	568	649	677	647	661	479	540	617	642	614	626
Medium.....	965	998	1,115	1,141	1,064	1,025	495	511	572	585	546	526	470	486	543	556	518	499
Low.....	956	927	998	985	885	803	490	475	512	505	454	412	466	452	486	480	431	391
Constant.....	956	918	972	945	835	743	490	471	499	485	429	382	466	448	474	460	407	362
5 to 9 yr:																		
High.....		979	1,105	1,262	1,315	1,258		501	566	646	674	645		477	539	615	641	613
Medium.....	1,209	961	994	1,112	1,138	1,061	619	492	509	570	583	544	590	469	485	542	554	517
Low.....		952	924	995	983	883		488	473	510	504	453		464	451	485	479	430
Constant.....		952	915	969	942	833		488	468	497	483	427		464	446	473	459	406
10 to 14 yr:																		
High.....			977	1,103	1,260	1,314			500	565	645	673			477	539	615	641
Medium.....	1,426	1,207	960	993	1,110	1,136	731	617	491	508	569	582	695	590	468	485	542	554
Low.....			951	923	994	982			487	472	509	503			464	451	485	479
Constant.....			951	914	968	941			487	468	496	482			464	446	472	459
15 to 19 yr:																		
High.....			975	1,101	1,258	1,258			498	562	643	643			476	538	614	614
Medium.....	1,326	1,422	957	991	1,108	1,108	679	727	489	506	567	567	647	694	468	484	541	541
Low.....			948	921	992	992			485	471	507	507			464	450	484	484
Constant.....			948	912	966	966			485	466	494	494			464	446	472	472
20 to 24 yr:																		
High.....			971	1,097	1,258	1,258				495	559	559					476	538
Medium.....	1,319	1,320	954	987	1,108	1,108	677	674	486	503	567	567	642	646	468	484	541	541
Low.....			945	918	992	992			482	468	494	494			464	450	484	484
Constant.....			945	908	966	966			482	463	494	494			463	446	472	472
25 to 29 yr:																		
High.....			967	1,097	1,258	1,258				492	559	559					476	538
Medium.....	964	1,312	950	987	1,108	1,108	490	671	486	503	567	567	642	646	468	484	541	541
Low.....			941	918	992	992			482	468	494	494			464	450	484	484
Constant.....			941	908	966	966			482	463	494	494			463	446	472	472
30 to 34 yr.....	1,097	958	1,305	1,306	1,402	1,189	551	486	665	663	711	606	474	641	645	692	588	475
35 to 39 yr.....	1,329	1,089	952	1,296	1,299	1,395	659	545	658	659	658	602	546	472	639	644	691	467
40 to 44 yr.....	1,068	1,315	1,078	943	1,285	1,288	537	659	438	476	652	650	651	544	470	637	641	463
45 to 49 yr.....	991	1,051	1,295	1,061	930	1,268	461	526	646	528	467	640	530	525	849	534	463	627
50 to 54 yr.....	876	965	1,024	1,264	1,036	910	337	445	509	626	511	454	539	520	516	637	525	456
55 to 59 yr.....	622	841	926	883	1,215	910	232	317	421	482	594	485	390	523	505	502	621	512
60 to 64 yr.....	900	584	788	863	921	1,196	333	211	288	384	440	543	568	573	600	484	481	597
65 to 69 yr.....	975	807	528	711	831	372	283	181	247	331	380	603	603	524	347	464	451	450
70 to 74 yr.....	828	816	679	450	604	325	291	221	144	195	264	503	503	525	475	306	408	399
75 yr and over.....	971	1,089	1,153	1,103	943	947	325	371	375	335	271	267	646	718	779	768	671	679

TABLE II-E.—PROJECTED POPULATION, BY 5-YR AGE GROUPS AND SEX—HUNGARY: 1976-2001

[Numbers in thousands as of Jan. 1. Figures may not add to totals due to rounding. See text for an explanation of the series]

Age and series	Both sexes						Male						Female						
	1976	1981	1986	1991	1996	2001	1976	1981	1986	1991	1996	2001	1976	1981	1986	1991	1996	2001	
All ages:																			
High.....	10,590	10,978	11,270	11,502	11,790	12,195	5,139	5,339	5,494	5,622	5,775	5,990	5,451	5,639	5,776	5,880	6,015	6,204	
Medium.....	10,572	10,860	11,048	11,170	11,326	11,530	5,130	5,278	5,380	5,452	5,537	5,650	5,442	5,582	5,668	5,719	5,789	5,880	
Low.....	10,553	10,742	10,826	10,838	10,864	10,882	5,120	5,218	5,266	5,282	5,300	5,318	5,433	5,524	5,560	5,557	5,563	5,564	
Constant.....	10,572	10,860	11,049	11,172	11,330	11,536	5,130	5,278	5,381	5,453	5,539	5,653	5,442	5,582	5,668	5,720	5,790	5,883	
Under 5 yr:																			
High.....	827	1,009	934	884	926	1,073	425	517	479	454	475	551	402	491	455	430	450	522	
Medium.....	808	909	829	774	793	872	415	466	425	397	407	448	393	443	404	377	386	424	
Low.....	790	809	725	664	662	686	406	415	372	341	340	352	384	394	353	323	322	334	
Constant.....	808	909	830	775	795	875	415	466	426	398	408	449	393	443	404	377	387	425	
5 to 9 yr:																			
High.....			823	1,006	931	882	924		422	515	477	453	474		401	490	454	430	450
Medium.....		719	805	906	827	772	791	370	413	464	424	396	406	348	392	442	403	376	385
Low.....			787	807	723	662	661		404	413	371	340	339		383	393	352	323	322
Constant.....			805	906	828	773	793		413	465	424	397	407		392	442	403	377	368
10 to 14 yr:																			
High.....			822	1,005	930	882			422	515	477	452		401	490	453	430	430	
Medium.....		636	804	905	826	772		327	412	464	423	396	309	348	392	441	403	376	376
Low.....			786	806	722	662			403	413	370	339		383	393	352	322	322	322
Constant.....			804	906	827	773			411	464	424	396		392	442	403	377	377	377
15 to 19 yr:																			
High.....			821	1,003	929				421	513	476			400	490	453	430	453	
Medium.....		766	803	904	825			393	411	463	422		373	309	348	392	441	403	403
Low.....			785	805	721				402	412	369			383	393	352	322	322	322
Constant.....			803	904	826				411	463	423			392	441	403	377	377	377
20 to 24 yr:																			
High.....			819	1,001					419	511				400	490	453	430	430	
Medium.....		932	801	902			477	391	410	461			455	373	309	348	391	441	441
Low.....			783	803					400	410				382	393	352	322	322	322
Constant.....			801	902					410	461				391	441	403	377	377	377
25 to 29 yr:																			
High.....			817						417					400	490	453	430	430	
Medium.....		810	799				411	474	408	468			399	454	372	308	347	391	391
Low.....			781						398	408				382	393	352	322	322	322
Constant.....			799						408	408				391	441	403	377	377	377
30 to 34 yr.....	730	806	924	757	628	710	366	408	471	386	320	363	364	398	453	372	308	347	347
35 to 39 yr.....	675	725	800	918	753	625	328	363	404	466	382	318	347	362	397	452	371	307	307
40 to 44 yr.....	687	667	717	793	910	746	335	323	357	398	460	377	352	345	360	395	450	369	369
45 to 49 yr.....	718	675	657	706	781	897	348	327	316	350	390	451	371	348	341	356	391	446	446
50 to 54 yr.....	715	699	658	641	689	763	338	336	316	305	339	378	378	364	342	335	350	385	385
55 to 59 yr.....	456	686	671	632	617	664	209	319	318	299	290	322	247	367	353	333	327	342	342
60 to 64 yr.....	577	427	640	628	592	580	261	191	291	290	273	266	316	235	350	338	319	314	314
65 to 69 yr.....	525	512	382	572	562	531	231	221	164	248	248	235	294	291	218	324	314	297	297
70 to 74 yr.....	384	431	421	319	475	468	162	178	170	128	193	194	222	253	251	191	282	274	274
75 yr and over.....	432	473	529	552	511	584	159	174	192	196	177	205	273	299	337	356	334	379	379

TABLE II-F.—PROJECTED POPULATION, BY 5-YR AGE GROUPS AND SEX—POLAND: 1976-2001

[Numbers in thousands as of Jan. 1. Figures may not add to totals due to rounding. See text for an explanation of the series]

Age and series	Both sexes						Male						Female						
	1976	1981	1986	1991	1996	2001	1976	1981	1986	1991	1996	2001	1976	1981	1986	1991	1996	2001	
All ages:																			
High.....	34,265	36,517	38,720	40,635	42,435	44,433	16,670	17,815	18,948	19,944	20,875	21,911	17,593	18,702	19,772	20,691	21,559	22,521	
Medium.....	34,200	36,087	37,866	39,333	40,638	41,936	16,638	17,595	18,510	19,277	19,955	20,632	17,562	18,493	19,356	20,056	20,683	21,305	
Low.....	34,137	35,657	37,012	38,031	38,845	39,487	16,606	17,374	18,073	18,610	19,036	19,376	17,531	18,283	18,939	19,421	19,809	20,111	
Constant.....	34,200	36,083	37,851	39,302	40,585	41,853	16,638	17,593	18,503	19,261	19,927	20,589	17,562	18,491	19,348	20,041	20,658	21,264	
Under 5 yr:																			
High.....	2,967	3,707	3,792	3,599	3,535	3,890	1,520	1,899	1,944	1,846	1,815	1,998	1,447	1,808	1,848	1,753	1,720	1,891	
Medium.....	2,904	3,340	3,367	3,150	3,038	3,187	1,488	1,711	1,726	1,616	1,560	1,637	1,416	1,629	1,641	1,534	1,479	1,550	
Low.....	2,841	2,972	2,942	2,700	2,545	2,528	1,456	1,523	1,508	1,385	1,307	1,299	1,386	1,450	1,434	1,315	1,239	1,229	
Constant.....	2,904	3,335	3,356	3,134	3,016	3,157	1,488	1,709	1,720	1,607	1,548	1,622	1,416	1,627	1,636	1,526	1,468	1,535	
5 to 9 yr:																			
High.....																			
Medium.....																			
Low.....																			
Constant.....																			
10 to 14 yr:																			
High.....																			
Medium.....																			
Low.....																			
Constant.....																			
15 to 19 yr:																			
High.....																			
Medium.....																			
Low.....																			
Constant.....																			
20 to 24 yr:																			
High.....																			
Medium.....																			
Low.....																			
Constant.....																			
25 to 29 yr:																			
High.....																			
Medium.....																			
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30 to 34 yr:																			
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35 to 39 yr:																			
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Low.....																			
Constant.....																			
40 to 44 yr:																			
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45 to 49 yr:																			
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60 to 64 yr:																			
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65 to 69 yr:																			
High.....																			
Medium.....																			
Low.....																			
Constant.....																			
70 to 74 yr:																			
High.....																			
Medium.....																			
Low.....																			
Constant.....																			
75 yr and over:																			
High.....																			
Medium.....																			
Low.....																			
Constant.....																			

TABLE II-G.—PROJECTED POPULATION, BY 5-YR AGE GROUPS AND SEX—ROMANIA, 1976-2001  
 [Numbers in thousands as of Jan. 1. Figures may not add to totals due to rounding. See text for an explanation of the series]

Age and series	Both sexes						Male						Female															
	1976	1981	1986	1991	1996	2001	1976	1981	1986	1991	1996	2001	1976	1981	1986	1991	1996	2001										
All ages:																												
High.....	21,369	22,496	23,483	24,521	25,714	26,925	10,525	11,110	11,626	12,173	12,795	13,425	10,845	11,386	11,856	12,348	12,919	13,500										
Medium.....	21,349	22,344	23,162	23,976	24,871	25,675	10,514	11,032	11,462	11,894	12,363	12,785	10,835	11,312	11,700	12,082	12,508	12,890										
Low.....	21,328	22,192	22,841	23,431	24,031	24,446	10,503	10,954	11,297	11,615	11,933	12,155	10,824	11,238	11,543	11,816	12,098	12,291										
Constant.....	21,369	22,495	23,477	24,508	25,691	26,888	10,525	11,109	11,624	12,167	12,783	13,406	10,845	11,386	11,854	12,342	12,908	13,482										
Under 5 yr:																												
High.....	1,937	2,101	2,041	2,154	2,332	2,454	992	1,077	1,046	1,104	1,196	1,259	944	1,024	995	1,049	1,136	1,196										
Medium.....	1,916	1,969	1,871	1,929	2,032	2,045	982	1,009	959	989	1,042	1,049	934	960	912	940	990	996										
Low.....	1,895	1,838	1,701	1,704	1,735	1,653	971	942	872	874	890	848	924	896	829	830	845	805										
Constant.....	1,937	2,099	2,037	2,147	2,321	2,440	992	1,076	1,044	1,101	1,190	1,252	944	1,023	993	1,046	1,131	1,188										
5 to 9 yr:																												
High.....	2,085	1,924	2,088	2,030	2,143	2,321	1,065	985	1,070	1,040	1,098	1,190	939	1,017	990	1,045	1,131	1,131										
Medium.....																			1,904	1,958	1,860	1,919	2,023	975	1,003	953	983	1,037
Low.....																			1,883	1,827	1,691	1,695	1,727	964	936	866	869	885
Constant.....																			1,924	2,087	2,026	2,136	2,311	985	1,069	1,038	1,094	1,184
10 to 14 yr:																												
High.....	1,391	2,081	1,921	2,085	2,026	2,140	713	1,062	983	1,067	1,038	1,096	678	1,018	938	1,018	989	1,044										
Medium.....																			1,900	1,955	1,858	1,916	2,023	972	1,001	951	982	
Low.....																			1,880	1,824	1,689	1,693	962	934	865	867		
Constant.....																			1,921	2,083	2,022	2,133	983	1,067	1,036	1,092		
15 to 19 yr:																												
High.....	1,748	1,387	2,076	1,917	2,081	2,023	893	710	1,059	980	1,065	1,035	855	677	1,017	936	1,016	988										
Medium.....																			1,896	1,951	1,854	970	998	949				
Low.....																			1,876	1,821	1,686	959	932	863				
Constant.....																			1,917	2,079	2,019	980	1,064	1,033				
20 to 24 yr:																												
High.....	1,813	1,741	1,382	2,069	1,911	2,075	924	888	707	1,055	976	1,061	890	853	675	1,015	935	1,015										
Medium.....																			1,891	1,946	966	994						
Low.....																			1,870	1,816	955	928						
Constant.....																			1,911	2,074	976	1,060						
25 to 29 yr:																												
High.....	1,540	1,805	1,734	1,377	2,062	1,905	783	918	883	703	1,049	971	757	887	851	674	1,012	933										
Medium.....																			1,884	961								
Low.....																			1,864	951								
Constant.....																			1,905	971								
30 to 34 yr.....	1,261	1,531	1,795	1,725	1,370	2,053	633	777	911	877	698	1,043	627	754	884	848	672	1,010										
35 to 39 yr.....	1,536	1,251	1,521	1,783	1,714	1,362	766	627	770	903	870	693	770	624	750	880	844	669										
40 to 44 yr.....	1,535	1,519	1,238	1,506	1,767	1,699	768	755	619	761	893	860	767	764	619	745	874	839										
45 to 49 yr.....	1,466	1,511	1,496	1,220	1,485	1,744	728	753	741	608	748	878	738	758	755	612	737	865										
50 to 54 yr.....	1,291	1,428	1,473	1,460	1,192	1,453	609	705	730	719	590	728	682	723	743	741	601	725										
55 to 59 yr.....	746	1,240	1,372	1,417	1,406	1,150	330	579	670	695	685	564	416	661	702	722	721	586										
60 to 64 yr.....	966	700	1,164	1,288	1,333	1,325	433	304	534	618	642	634	533	396	630	670	690	690										
65 to 69 yr.....	846	865	632	1,049	1,163	1,206	384	377	266	468	543	565	462	489	366	581	620	640										
70 to 74 yr.....	613	701	719	531	881	978	272	306	300	214	378	439	342	395	419	317	504	539										
75 yr and over.....	597	711	833	910	849	1,040	233	287	338	361	326	409	364	424	495	549	522	630										

TABLE III.—PROJECTED POPULATION OF PRESCHOOL AGE (0 TO 6 YR), BY SEX—6 EASTERN EUROPEAN COUNTRIES: 1976-2001

[Numbers in thousands as of Jan. 1. Figures may not add to totals due to rounding. See text for an explanation of the series]

Country and series	Both sexes						Male						Female					
	1976	1981	1986	1991	1996	2001	1976	1981	1986	1991	1996	2001	1976	1981	1986	1991	1996	2001
<b>Eastern Europe:</b>																		
High .....	12,100	14,003	14,414	14,240	14,440	15,543	6,198	7,174	7,387	7,302	7,408	7,978	5,902	6,829	7,026	6,938	7,032	7,565
Medium .....	11,951	12,974	12,978	12,592	12,498	12,880	6,122	6,646	6,652	6,457	6,412	6,611	5,829	6,328	6,327	6,135	6,087	6,269
Low .....	11,796	11,917	11,521	10,930	10,561	10,339	6,042	6,105	5,905	5,604	5,418	5,307	5,754	5,812	5,616	5,325	5,143	5,033
Constant .....	11,963	13,048	13,054	12,681	12,662	13,160	6,128	6,684	6,691	6,502	6,496	6,754	5,835	6,363	6,364	6,179	6,166	6,406
<b>Bulgaria:</b>																		
High .....	978	1,113	1,119	1,108	1,156	1,276	502	571	574	569	594	655	476	542	545	539	563	621
Medium .....	963	1,019	996	972	993	1,041	494	523	511	499	510	535	469	496	485	473	483	506
Low .....	948	924	874	837	832	823	487	474	449	431	427	423	462	450	425	407	405	400
Constant .....	963	1,019	997	974	996	1,041	494	518	512	500	511	536	469	496	485	474	485	508
<b>Czechoslovakia:</b>																		
High .....	1,765	2,098	2,049	1,993	2,051	2,313	903	1,074	1,049	1,021	1,051	1,186	862	1,025	1,000	972	1,000	1,127
Medium .....	1,751	1,992	1,890	1,795	1,798	1,942	896	1,019	967	919	919	995	855	973	922	876	877	946
Low .....	1,722	1,809	1,661	1,548	1,512	1,546	881	925	850	793	775	793	841	883	811	755	737	753
Constant .....	1,751	2,007	1,938	1,875	1,914	2,113	896	1,027	992	960	981	1,083	855	980	946	915	933	1,029
<b>East Germany:</b>																		
High .....	1,445	1,486	1,728	1,838	1,786	1,784	740	761	886	943	916	916	705	725	842	895	870	868
Medium .....	1,427	1,358	1,528	1,596	1,515	1,439	731	696	783	818	777	739	696	662	745	777	738	700
Low .....	1,418	1,278	1,377	1,388	1,270	1,142	726	655	706	712	652	586	692	623	671	676	619	556
Constant .....	1,418	1,269	1,346	1,335	1,203	1,062	726	650	690	685	617	545	692	619	656	651	586	517
<b>Hungary:</b>																		
High .....	1,122	1,390	1,331	1,246	1,278	1,456	577	713	683	639	656	748	545	677	648	607	622	708
Medium .....	1,103	1,272	1,185	1,094	1,100	1,197	567	652	608	561	565	614	536	620	577	533	536	582
Low .....	1,085	1,154	1,041	942	924	953	558	592	534	483	474	489	527	562	507	459	450	464
Constant .....	1,103	1,273	1,186	1,095	1,102	1,200	567	658	611	562	566	616	536	620	578	533	536	584
<b>Poland:</b>																		
High .....	4,002	5,002	5,310	5,096	4,949	5,318	2,049	2,562	2,721	2,614	2,540	2,732	1,953	2,440	2,589	2,483	2,409	2,586
Medium .....	3,939	4,572	4,728	4,473	4,270	4,405	2,017	2,341	2,423	2,294	2,192	2,263	1,922	2,230	2,305	2,179	2,078	2,142
Low .....	3,876	4,142	4,147	3,850	3,595	3,538	1,984	2,121	2,125	1,974	1,845	1,817	1,892	2,021	2,022	1,875	1,750	1,721
Constant .....	3,939	4,568	4,715	4,451	4,241	4,365	2,017	2,339	2,416	2,283	2,177	2,242	1,922	2,228	2,299	2,169	2,064	2,123
<b>Romania:</b>																		
High .....	2,789	2,913	2,878	2,959	3,220	3,396	1,427	1,493	1,475	1,517	1,651	1,742	1,361	1,420	1,403	1,442	1,569	1,656
Medium .....	2,768	2,761	2,650	2,662	2,822	2,857	1,417	1,415	1,358	1,364	1,447	1,465	1,351	1,346	1,292	1,297	1,375	1,392
Low .....	2,747	2,609	2,422	2,365	2,427	2,337	1,406	1,337	1,242	1,212	1,244	1,199	1,341	1,272	1,181	1,152	1,182	1,139
Constant .....	2,789	2,912	2,873	2,950	3,206	3,377	1,427	1,492	1,472	1,512	1,644	1,732	1,361	1,420	1,400	1,438	1,562	1,645

TABLE IV.—PROJECTED POPULATION OF PRIMARY SCHOOL AGE (7 TO 14 YEARS), BY SEX—6 EASTERN EUROPEAN COUNTRIES: 1976-2001

[Numbers in thousands as of Jan. 1. Figures may not add to totals due to rounding. See text for an explanation of the series]

Country and series	Both sexes						Male						Female					
	1976	1981	1986	1991	1996	2001	1976	1981	1986	1991	1996	2001	1976	1981	1986	1991	1996	2001
<b>Eastern Europe:</b>																		
High .....	12,822	13,205	14,771	16,370	16,311	16,271	6,564	6,756	7,561	8,382	8,356	8,341	6,258	6,449	7,210	7,989	7,955	7,930
Medium .....			14,123	14,878	14,554	14,252			7,229	7,617	7,456	7,306			6,893	7,260	7,098	6,946
Low .....			13,454	13,354	12,777	12,222			6,887	6,837	6,546	6,265			6,567	6,517	6,231	5,957
Constant .....			14,171	14,972	14,641	14,389			7,254	7,665	7,501	7,376			6,917	7,306	7,140	7,013
<b>Bulgaria:</b>																		
High .....	999	1,035	1,182	1,282	1,264	1,281	512	531	606	658	648	657	487	505	576	625	616	624
Medium .....			1,121	1,150	1,118	1,114			575	590	573	572			546	561	544	542
Low .....			1,060	1,019	971	948			544	522	498	487			517	496	473	462
Constant .....			1,122	1,151	1,119	1,116			575	590	574	573			546	561	545	544
<b>Czechoslovakia:</b>																		
High .....	1,736	1,806	2,233	2,380	2,297	2,285	887	923	1,142	1,217	1,176	1,170	849	883	1,091	1,163	1,122	1,115
Medium .....			2,167	2,221	2,094	2,032			1,108	1,136	1,072	1,041			1,059	1,085	1,022	992
Low .....			2,047	1,969	1,824	1,734			1,047	1,007	933	888			1,000	962	890	846
Constant .....			2,173	2,257	2,167	2,143			1,111	1,154	1,109	1,097			1,062	1,103	1,058	1,045
<b>East Germany:</b>																		
High .....	2,173	1,808	1,620	1,845	2,051	2,075	1,113	925	829	945	1,051	1,064	1,060	883	791	901	1,000	1,012
Medium .....			1,541	1,650	1,797	1,784			789	845	920	914			752	805	876	870
Low .....			1,495	1,515	1,591	1,525			766	776	815	782			730	739	776	744
Constant .....			1,492	1,492	1,542	1,456			764	764	790	746			728	728	752	710
<b>Hungary:</b>																		
High .....	1,060	1,160	1,431	1,574	1,460	1,423	545	597	733	806	748	730	515	563	697	767	711	693
Medium .....			1,354	1,412	1,291	1,239			694	724	662	635			660	688	629	603
Low .....			1,277	1,250	1,122	1,055			655	641	575	541			622	610	547	514
Constant .....			1,354	1,413	1,292	1,241			694	724	662	636			660	689	630	604
<b>Poland:</b>																		
High .....	4,231	4,203	5,133	5,979	5,958	5,689	2,164	2,148	2,627	3,061	3,053	2,918	2,067	2,054	2,507	2,918	2,905	2,771
Medium .....			4,861	5,362	5,267	4,956			2,487	2,745	2,699	2,542			2,374	2,617	2,568	2,414
Low .....			4,588	4,746	4,577	4,224			2,348	2,429	2,345	2,166			2,241	2,316	2,232	2,057
Constant .....			4,859	5,353	5,247	4,927			2,486	2,740	2,688	2,527			2,373	2,613	2,559	2,400
<b>Romania:</b>																		
High .....	2,623	3,193	3,172	3,310	3,281	3,519	1,342	1,631	1,624	1,695	1,681	1,803	1,281	1,561	1,548	1,615	1,601	1,716
Medium .....			3,079	3,082	2,987	3,127			1,576	1,578	1,530	1,602			1,504	1,504	1,457	1,525
Low .....			2,989	2,855	2,692	2,736			1,528	1,462	1,379	1,402			1,457	1,393	1,313	1,334
Constant .....			3,172	3,306	3,273	3,506			1,623	1,693	1,677	1,796			1,548	1,613	1,597	1,710

TABLE V.—PROJECTED POPULATION OF WORKING AGE (15 TO 64 YEARS), BY SEX—6 EASTERN EUROPEAN COUNTRIES: 1976-2001

[Numbers in thousands as of Jan. 1. Figures may not add to totals due to rounding. See text for an explanation of the series]

Country and series	Both sexes						Male						Female					
	1976	1981	1986	1991	1996	2001	1976	1981	1986	1991	1996	2001	1976	1981	1986	1991	1996	2001
<b>Eastern Europe:</b>																		
High.....	69,629	71,413	74,753	76,568	79,517	82,543	34,134	35,280	37,107	38,262	39,875	41,470	35,495	36,133	37,646	38,307	39,642	41,073
Medium.....				76,421	78,495	80,471				38,186	39,353	40,411				38,235	39,142	40,060
Low.....				76,268	77,444	78,356				38,108	38,815	39,330				38,160	38,629	39,026
Constant.....				76,433	78,568	80,595				38,192	39,390	40,475				38,241	39,178	40,121
<b>Bulgaria:</b>																		
High.....	5,859	5,939	6,147	6,221	6,372	6,514	2,938	2,976	3,079	3,121	3,202	3,280	2,921	2,963	3,067	3,099	3,169	3,234
Medium.....				6,206	6,278	6,332				3,114	3,154	3,187				3,092	3,123	3,145
Low.....				6,192	6,184	6,150				3,106	3,106	3,094				3,085	3,078	3,056
Constant.....				6,206	6,278	6,333				3,114	3,155	3,188				3,092	3,123	3,145
<b>Czechoslovakia:</b>																		
High.....	9,546	9,734	10,097	10,419	10,965	11,513	4,721	4,828	5,012	5,194	5,484	5,766	4,826	4,905	5,085	5,225	5,481	5,747
Medium.....				10,404	10,859	11,289				5,186	5,430	5,652				5,218	5,429	5,637
Low.....				10,376	10,677	10,942				5,172	5,337	5,475				5,204	5,340	5,467
Constant.....				10,404	10,874	11,343				5,186	5,438	5,680				5,218	5,437	5,663
<b>East Germany:</b>																		
High.....	10,492	10,856	11,301	11,305	11,354	11,508	4,963	5,262	5,554	5,643	5,696	5,774	5,529	5,595	5,747	5,662	5,658	5,733
Medium.....				11,287	11,227	11,231				5,634	5,631	5,663				5,654	5,596	5,598
Low.....				11,279	11,148	11,036				5,629	5,591	5,534				5,649	5,557	5,502
Constant.....				11,279	11,139	11,001				5,629	5,586	5,516				5,649	5,553	5,485
<b>Hungary:</b>																		
High.....	7,067	7,011	7,177	7,240	7,504	7,732	3,466	3,456	3,552	3,604	3,752	3,879	3,602	3,555	3,625	3,637	3,752	3,853
Medium.....				7,222	7,387	7,511				3,594	3,692	3,766				3,628	3,695	3,745
Low.....				7,204	7,269	7,290				3,585	3,632	3,653				3,619	3,638	3,637
Constant.....				7,222	7,387	7,512				3,594	3,692	3,766				3,628	3,695	3,745
<b>Poland:</b>																		
High.....	22,762	23,760	24,781	25,622	27,002	28,490	11,180	11,742	12,285	12,782	13,524	14,303	11,582	12,018	12,496	12,840	13,478	14,187
Medium.....				25,559	26,574	27,639				12,750	13,306	13,868				12,810	13,269	13,771
Low.....				25,497	26,146	26,789				12,718	13,087	13,433				12,779	13,060	13,356
Constant.....				25,559	26,570	27,625				12,750	13,304	13,861				12,810	13,267	13,764
<b>Romania:</b>																		
High.....	13,902	14,114	15,250	15,762	16,321	16,787	6,867	7,016	7,624	7,919	8,217	8,467	7,035	7,098	7,626	7,843	8,104	8,320
Medium.....				15,742	16,170	16,469				7,908	8,140	8,304				7,833	8,030	8,164
Low.....				15,721	16,020	16,150				7,898	8,063	8,141				7,823	7,957	8,009
Constant.....				15,762	16,319	16,782				7,919	8,216	8,464				7,843	8,103	8,317

TABLE VI.—PROJECTED POPULATION OF RETIREMENT AGE (65 YR AND OVER), BY SEX—6 EASTERN EUROPEAN COUNTRIES: 1976-2001

[Numbers in thousands as Jan. 1. Figures may not add to totals due to rounding]

Country and sex	1976	1981	1986	1991	1996	2001
<b>Both sexes:</b>						
Eastern Europe.....	12,223	12,940	12,155	13,185	14,611	15,627
Bulgaria.....	951	1,069	1,030	1,159	1,308	1,419
Czechoslovakia.....	1,833	1,912	1,755	1,890	2,007	2,025
East Germany.....	2,775	2,712	2,360	2,265	2,329	2,440
Hungary.....	1,341	1,417	1,332	1,442	1,548	1,584
Poland.....	3,268	3,553	3,496	3,938	4,527	4,936
Romania.....	2,055	2,277	2,183	2,491	2,893	3,223
<b>Male:</b>						
Eastern Europe.....	4,912	5,098	4,666	5,085	5,790	6,340
Bulgaria.....	435	489	466	522	588	635
Czechoslovakia.....	738	758	679	733	779	786
East Germany.....	1,023	945	777	726	798	912
Hungary.....	551	573	526	572	619	634
Poland.....	1,277	1,363	1,315	1,488	1,759	1,959
Romania.....	888	970	904	1,043	1,247	1,413
<b>Female:</b>						
Eastern Europe.....	7,311	7,842	7,489	8,100	8,821	9,287
Bulgaria.....	516	579	564	637	721	784
Czechoslovakia.....	1,096	1,154	1,076	1,157	1,227	1,239
East Germany.....	1,752	1,768	1,583	1,539	1,531	1,528
Hungary.....	789	844	806	870	929	950
Poland.....	1,991	2,190	2,181	2,450	2,768	2,977
Romania.....	1,167	1,307	1,279	1,448	1,646	1,809

# MIGRATION AND EMPLOYMENT OF FOREIGN WORKERS IN THE CMEA COUNTRIES AND THEIR PROBLEMS

BY FRIEDRICH LEVCIK\*

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Just at a time when the employment of foreign labor is being subjected to a new critical appraisal in the industrial countries of the West, the member countries of the Council for Mutual Economic Assistance (Rat fuer gegenseitige Wirtschaftshilfe—RGW or CMEA)<sup>1</sup> are beginning to deal more closely with the problem of “cooperation in labor resource problems”. In the Master-Program (Komplexprogramm) [1] of the CMEA member countries which was adapted in 1971, the possibility of the exchange of labor is suggested as a form of economic cooperation. Actually the international exchange of workers and the cooperation of labor forces of various CMEA countries for certain projects has already been in effect for several years. But only in the last 3–4 years has there begun to be more interest in this new situation and the accompanying problems and to investigate the possibility of developing this form of cooperation.

The reason for the current interest in the employment of foreign workers is related to the growing utilization of the labor supply in the CMEA countries. In most of the Eastern Bloc countries the growth of the labor force has slowed in the 1970's. Especially in the GDR (German Democratic Republic), Czechoslovakia and in Hungary, but also in certain branches and areas of the Soviet Union, an acute lack of labor is becoming apparent. Only in Bulgaria, Romania and in Poland is the number of the employed in non-agricultural jobs increasing in the 1970's at the same rate as in the 1960's. [2] Because of the varying degree of the utilization of labor reserves, it is plausible to consider the temporary migration of labor as a means of eliminating the labor shortage.

## DEMOGRAPHIC DEVELOPMENT

In this regard, the differing reasons for the successive enlargement of the labor supply in the individual CMEA countries should be

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<sup>1</sup> The report covers only the European members of the COMECON, namely Bulgaria, Czechoslovakia, the German Democratic Republic, Poland, Rumania, Hungary and the Soviet Union.

considered. Usually only increased employment due to industrialization and uninterrupted economic growth is cited. Between 1950 and 1970 the number of employed actually rose by one-fifth in the Eastern European countries and even by more than two-fifths in the Soviet Union. [3] But a series of demographic factors also had a negative influence on the labor supply.

In contrast to Western Europe, population growth in Eastern Europe and in the Soviet Union slowed noticeably in the 1960's in comparison with the 1950's.

CHART 1.—POPULATION AND AVERAGE ANNUAL RATES OF GROWTH

Region	Number (millions)			Average annual rate of growth per thousand (percent)		
	1950	1960	1970	1950-60	1960-70	1950-70
Western Europe.....	303.1	327.6	357.5	7.8	8.8	8.3
Eastern Europe <sup>1</sup> .....	88.5	96.9	103.1	9.1	6.2	7.6
U.S.S.R.....	180.1	214.3	242.8	17.54	12.6	15.0

<sup>1</sup> Bulgaria, Czechoslovakia, GDR, Poland, Romania, and Hungary.

Source: Recent Demographic Trends in Europe and the Outlook Until the Year 2000, ECE, Geneva, August 1974 (duplicated).

Furthermore, the population in Eastern Europe grew more slowly during the 1960's than in the other regions of Europe. Within Eastern Europe, Czechoslovakia with 49 thousandths (.49%) and Hungary with 34 thousandths (.34%) remained under the average for annual Eastern European rates of population growth. In the GDR, the population shrank not only in the 1950's, but further in the 1960's, and in 1970 it had 1.3 million inhabitants less than in 1950. Only in the Soviet Union did the population grow substantially faster than in the rest of Europe in spite of a noticeable slowing in the 1960's.

The population changes indicated here are composed of the natural increase in population and the results of international migration. As in the rest of Europe, the natural population growth decreased between 1950 and 1970 because the birth rates exhibited a long-term downward trend and the death rates were stabilized in the mid-1960's after a long decrease.[4]

CHART 2.—NATURAL POPULATION GROWTH, LIVE BIRTHS, AND DEATHS, 1950-69

[Average annual rates per 1,000 inhabitants]

	Natural population growth			Birth rate			Death rate		
	1950-59	1960-64	1965-69	1950-59	1960-64	1965-69	1950-59	1960-64	1965-69
Eastern Europe.....	11.8	8.1	7.1	22.5	17.5	16.8	10.7	9.4	9.7
U.S.S.R.....	17.4	15.1	10.0	25.8	22.3	17.6	8.4	7.2	7.6

Source: See chart 1.

Birth rates begin to sink after the post-war baby-boom tapered off in the first half of the 1950's. The downward trend continued in most Eastern European countries and the Soviet Union until the end of the 1960's. Not until the beginning of the 1970's did the frequency of births increase briefly again in several CMEA countries. [5] Positive impulses for the labor supply are, however, not to be expected for 15

years, when the children born at the beginning of the 1970's reach a productive age.

The changes in the age structure of the population also had a negative effect on the labor supply. The proportion of the "active population" between the ages of 15 and 59 decreased and the population of the older population over 60 increased substantially.

CHART 3.—AGE STRUCTURE OF THE POPULATION, 1950, 1960, AND 1970

[Proportion of the total population in percent]

	Under 15 years of age	15 to 59 years of age	60 years and older
<b>Eastern Europe:</b>			
1950 .....	26.7	62.4	10.9
1960 .....	28.0	59.0	13.0
1970 .....	24.6	59.8	15.6
<b>U.S.S.R.:</b>			
1950 .....	30.3	61.5	8.2
1960 .....	30.4	60.0	9.6
1970 .....	28.9	59.4	11.7

Source: See chart 1.

Natural changes in the population, especially changes in the birth rate, influence a country's labor supply only after a relatively long period of time. In comparison, the influence of international migrations is more immediate and direct. International migration has exercised a definitely negative influence on the labor supply in Eastern Europe since the end of the Second World War. The net emigration (emigration minus immigration) from the Eastern European countries between 1945 and 1950 amounted to between 2.5 and 3 million people. [6] Between 1950 and 1970, the Eastern European countries (excluding the Soviet Union) lost another 3.6 million inhabitants according to accounts from emigration at the same time that the Western European industrial nations (Benelux, FRG [Federal Republic of Germany], France, Austria and Switzerland) gained 7.7 million inhabitants due to immigration. [4] The emigration losses of the GDR were especially heavy. In the 1950's, the emigration loss surpassed the natural population growth by almost two-and-one-half times, but also in the 1960's, the number of emigrants surpassed the natural population growth by an additional third although emigration decreased considerably after the erection of the Berlin Wall. According to accounts, a total of 2.4 million inhabitants left the GDR by 1970. Therefore, almost 2/3 of the total net emigration from Eastern Europe affected the GDR. However, emigration from Czechoslovakia, Poland and Hungary, although considerably less than in the case of the GDR, was substantial. The streams of emigrants from southern Europe to the Western European countries were the result of economic conditions and were often merely a temporary migration in search of employment opportunity, but the spurts of emigration from the Eastern Block were primarily politically motivated and were, therefore, usually of a permanent nature. Poland and Czechoslovakia each lost 7% between 1950-1970, Hungary 15% of their natural population growth through emigration. However, in the case of Czechoslovakia, the blood-letting of emigration until 1950 was not taken into account in the following chart.

CHART 4.—EMIGRATION AND POPULATION GROWTH 1950-70

Period	Natural population growth (in thousands)	Net-emigration (in thousands)	Net-emigration as percent of natural population growth	Average change in population (in percent)	
				Without emigration	With emigration <sup>a</sup>
<b>Czechoslovakia:</b>					
1950-60.....	1.239	<sup>1</sup> -0.30	<sup>2</sup> -2.4	0.9	1.0 <sup>a</sup>
1960-70.....	.807	.174	21.6	.6	.4 <sup>a</sup>
1950-70.....	2.046	.144	7.0	.8	.7 <sup>a</sup>
<b>GDR:</b>					
1950-60.....	.752	1.824	242.6	.4	-.6 <sup>a</sup>
1960-70.....	.411	.563	137.0	.2	-.1 <sup>a</sup>
1950-70.....	1.163	2.387	205.2	.3	-.4 <sup>a</sup>
<b>Poland:</b>					
1950-60.....	4.983	.196	3.9	1.8	1.8 <sup>a</sup>
1960-70.....	3.157	.381	12.1	1.0	.9 <sup>a</sup>
1950-70.....	8.140	.577	7.1	1.4	1.3 <sup>a</sup>
<b>Hungary:</b>					
1950-60.....	.788	.162	20.6	.8	.6 <sup>a</sup>
1960-70.....	.339	.10	2.9	.3	.3 <sup>a</sup>
1950-70.....	1.127	.172	15.3	.6	.5 <sup>a</sup>

<sup>1</sup> Net-immigration (in thousands).<sup>2</sup> Net-immigration as percent of the population growth.

Source: See chart 1.

## GROWING UTILIZATION OF MANPOWER RESOURCES

The combination of rising employment and the aforementioned negative demographic factors led during the 1960's in Eastern Europe as well as in the Soviet Union to a considerable rise in the general employment quotas (the employed as a percentage of the population).

CHART 5.—POPULATION, NUMBER OF EMPLOYED, EMPLOYMENT QUOTAS 1950, 1960, AND 1970

[Average annual growth rates in percent]

	1950	1960	1970	1950/60	1960/70	1950/70 <sup>a</sup>
<b>Eastern Europe:</b>						
(a) Population, in millions.....	88.5	96.9	103.1	0.91	0.62	0.77 <sup>a</sup>
(b) Number of employed, in millions.....	42.0	45.8	50.8	0.87	1.04	0.96 <sup>a</sup>
(c) General employment quotas, in percent <sup>1</sup> .....	47.5	47.3	49.3	.....	.....	.....
<b>U.S.S.R.:</b>						
(a) Population in millions.....	180.1	214.3	242.3	1.75	1.26	1.50 <sup>a</sup>
(b) Number of employed in millions.....	84.7	100.5	115.2	1.73	1.37	1.55 <sup>a</sup>
(c) General employment quotas in percent.....	47.0	46.9	47.5	.....	.....	.....

<sup>1</sup> Number of employed as a percent of population.

Source: Statistical yearbook of the CMEA countries, number of employed in some cases estimated.

In the 1950's, the increase in employment resulted mainly from structural shifts—movement out of agriculture—which left the employment quotas for the most part unchanged (Chart 5). However, in the 1960's, additional segments of the population, mainly women, were absorbed into the employment process. This process was concentrated primarily in the GDR, Czechoslovakia, Hungary and to a lesser extent in Poland, while in Bulgaria and Romania the increase in employment continued to result from shifts out of agriculture, although the overall employment quota decreased.

CHART 6.—DEVELOPMENT OF THE OVERALL EMPLOYMENT QUOTAS IN THE INDIVIDUAL COMECON COUNTRIES <sup>1</sup>

	1950	1960	1970
Bulgaria.....	57.9	50.1	48.8
Czechoslovakia.....	47.1	46.8	48.7
German Democratic Republic.....	39.1	44.4	45.4
Poland.....	48.9	46.5	51.9
Rumania.....	51.4	51.9	48.9
Hungary.....	45.3	46.4	47.9
U.S.S.R.....	47.0	46.9	47.5

<sup>1</sup> Number of employed as a percent of population.

Source: See chart 5.

A direct comparison of the overall employment quotas in different countries is difficult because the labor of family members on farms is not at all uniformly measured in the statistics of individual countries. In addition, in the agricultural sector juveniles and many people of a post-productive age are often employed. Seasonal and part-time employment also occur more often in agriculture than in the other economic sectors. For all these reasons the employment quotas are usually higher in the less developed countries with a large agricultural sector than in the developed industrial countries. One cannot, therefore, draw any direct conclusions about the utilization of the labor supply by looking at the employment quotas. On the other hand, the trend of the overall employment quotas in the individual CMEA countries is informative in this (the following) respect.

In the GDR, Czechoslovakia and in Hungary, the labor force reserves have already been exhausted. A further increase in the employment of women is hardly possible in these countries and is also rejected for reasons of demographic politics (the high level of employment of women cuts down the birth rate to below the net production limit.) [3] Currently, a considerable number of people of retirement age are already working in these countries. It is becoming more and more difficult to find workers for important branches of the economy. In Czechoslovakia, e.g., an estimated 300,000 jobs in industry remain vacant because of a shortage of labor. [7]

In the Soviet Union, the situation is less tense. As a result of the great distances and insufficient mobility of the labor force, an acute shortage of labor is apparent however, in many branches, occupations and regions, while in other branches and areas there still are sufficient reserves of labor. In Bulgaria, too, the shortage of labor is limited to certain branches and occupations, while in Poland and Rumania there is even less utilization of the labor supply. [8]

#### EMPLOYMENT OF FOREIGN WORKERS WITHIN THE CMEA COUNTRIES

In this situation it is understandable that individual CMEA countries have already considered for some time solving their problems with the help of foreign labor.

However, the employment of foreign labor in the CMEA countries is not a completely new phenomenon. In the early post-war era, Czechoslovakia had already signed agreements with Poland concerning the use of Polish labor in border areas within the concept of minor border traffic. In addition, as the result of a governmental agreement between Czechoslovakia and Bulgaria, Bulgarian workers were em-

ployed in the early postwar years on the farms abandoned by Germans who left the Sudetenland, but also to an extent in the northern and western coal mines. In 1957, Czechoslovakia signed a new agreement about the employment of Bulgarian laborers, which was then renewed three more times. [9] But it wasn't until the end of the 1960's that the possibility of cooperation in the area of foreign labor began to be explored in more detail. Official agreements about various forms of employment of foreign labor were signed between individual CMEA countries, e.g., between Hungary and the GDR, as well as between Bulgaria and the USSR. Pacts concerning temporary employment within the scope of minor border traffic were signed between Czechoslovakia and Poland, as well as Hungary, and between Poland and the GDR. Czechoslovakia has also recently drafted an agreement with Yugoslavia about the employment of Yugoslavian workers in Czechoslovakia which must still be ratified by the governments. [10] This pact was signed in addition to already existing contracts with Yugoslavian construction companies which are undertaking various construction projects in Czechoslovakia with their own workers and equipment.

The employment of foreign labor in the CMEA territory is, however, of a very modest extent and cannot be compared to the stream of foreign (guest) workers in Western Europe. There are no official statistics regarding the employment of foreign workers within the CMEA. However, the statistical year book of the Republic of Hungary contains the information that in 1973, 12,000 Hungarian workers were employed in foreign countries. [11] This figure probably does not include those commuting across the border (cf. Chart 7). Otherwise, one is dependent on individual figures in the daily press and a few articles in professional magazines which are difficult to combine in a coherent, quantitative outline. According to estimates by Soviet authors, the employment of foreign workers in the CMEA territory did not exceed the limit of 100,000 people at the end of 1973. [7] In the interim, this figure is probably substantially higher and one could view the round figure of 150,000 as realistic (Chart 7).

The majority of the foreign workers are employed in the GDR. Some of them are construction workers and technicians who are working in the GDR or construction projects with their Polish or Yugoslavian construction firms within the framework of the "Export of Construction and Assembly Output", some are Polish workers, often women, who cross the border to work in GDR factories along the border, some are young skilled workers and graduates of middle and trade schools in Hungary and Bulgaria who intend to increase or acquire their qualifications in the GDR. Finally, a sizable number of Poles, and many Bulgarians and Turks as well, work in the GDR because of individual labor contracts, which are, nevertheless, negotiated by official agencies of the exporting country. In the GDR, an estimated 60,000 or 70,000 Poles, Hungarians, Bulgarians and Yugoslavs are currently employed.

In Czechoslovakia Polish and Yugoslavian construction firms with their own laborers and technicians are erecting industrial projects, power stations, dams, bridges and roads, as well as hotels and department stores. Almost 5,000 Polish and 2,000 to 3,000 Yugoslavian construction workers, technicians and administrators are in Czecho-

slovakian territory, but employed by their own companies. Far greater is the number of unorganized individual Polish workers who come mainly from the Wojwod communities (Wojwodschaften) Wwoclaw, Katowice and Rzeszow and who work in the border territories in North Bohmen, North Mahren and in East Slovakia in Czechoslovakian industrial and agricultural firms.

The majority of these workers come to Czechoslovakia in the category of minor border traffic (commuters). Among those crossing the border are many women. Some of these workers even commit themselves with one- and two-year contracts to work in distant Czechoslovakian factories and in that case they are lodged in plant quarters for the duration of the contract. Polish sources estimate the number of border commuters and individually employed workers at from 26,000 to 27,000 people. [12] Also an estimated 2,000 Hungarian border commuters work in Czechoslovakia. In addition, an unknown number of Soviet specialists work in Czechoslovakia. Soviet technicians and engineers are working, e.g., on the construction of the subway in Prague.

The third host country in the CMEA territory is the USSR itself. Until this year mainly Bulgarians found work in the USSR. Among other things, they are employed in the construction of an iron and steel plant, as well as a cellulose project near Ust-Ilim along the Angara. The Bulgarian labor contribution is supposed to be compensated out of shipments from the newly created capacities. Another form is the cooperation agreed upon by Bulgaria and the U.S.S.R. for the procurement of commercial timber in the ASSR of the Komi. There Bulgaria has installed forestry operations in which Bulgarian workers are employed. Last year 12,000 Bulgarians were employed in this way in the USSR, this year their number is supposed to climb between 15,000 and 20,000. [9] A small number of Polish and Yugoslavian construction workers and technicians are working within their own companies in the Soviet Union, where hotel projects, etc., are being completed.

In 1976 in the territory of the Soviet Union, the construction of the Natural Gas Pipeline—Magistrate Orenburg was to be undertaken, with which other CMEA countries are to assist. From 25,000 to 30,000 foreign workers, laborers, technicians, engineers and management from Bulgaria, Czechoslovakia, the GDR, Poland and Hungary are taking part in this giant enterprise for 4 years on Soviet territory. After completion, it is expected to supply natural gas not only to the CMEA countries but also to Western Europe, including Austria. [13] This year and in coming years a total of 40,000 to 50,000 foreign workers will likely be employed in various projects in the Soviet Union.

#### EMPLOYMENT OF FOREIGN WORKERS OUTSIDE OF THE CMEA COUNTRIES

Several CMEA countries also send smaller groups of workers to Western Europe and the developing countries. In the FRG, 14,000 Poles are supposed to have been employed in 1973 in the building sector, mainly within Polish construction companies. [14] Industrial complexes, sanatoriums, nursing homes, office buildings and residential complexes have been erected with the help of Polish labor.

There is no more recent information whether this employment of foreign labor is still taking place. In any case, it can be presumed that because of the economic slump in the FRG, this process has more likely been curtailed, if not stopped altogether. In 1973, 800 Poles were working in Libya and currently 4,000 are reportedly employed there. [15] Nearly one thousand Polish specialists, doctors, graduate engineers, biologists, technicians, laboratory technicians and other professionals are working by reason of special employment contracts outside CMEA, some in the West, but mainly in the developing countries. [16] The other CMEA countries, too, procure screened professionals and specialists for limited employment contracts abroad through special foreign trade organizations (Polytechna in Czechoslovakia, TESCO in Hungary, both organizations for international technical and scientific cooperation). In contrast to the "brain drain" as it is known in the West, where graduate professionals accept positions in foreign countries if they expect greater chances of advancement or higher incomes, many CMEA countries organize their own negotiation of time-limited employment contracts abroad for graduate professionals or otherwise occupationally schooled labor. The foreign trade organization signs the contracts on the one hand with the employer abroad and on the other hand with the citizen who is willing to migrate. He receives only part of his earnings in the foreign "hard" currency, while the remainder is deposited for him in non-convertible native currency in an account at home. Many of these professionals, e.g., doctors, complain that the foreign trade organizations have negotiated poorer conditions with the foreign employer than comparable professionals from other countries.

Smaller groups of workers from Hungary, Czechoslovakia and Bulgaria are working in the West by special permission. In Austria, Hungarians, Poles and Slovaks are working, e.g., in the hotel and restaurant industry as well as skilled workers, fitters, mechanics and welders, e.g., in shipbuilding, in Korneuburg. Here, too, the aforementioned foreign trade organizations appear as intermediaries. [17] Individuals, especially from Poland, are using the more relaxed travel opportunities since 1970 to come to the West as tourists, where they then work for awhile and, after eventually receiving an extension of their travel permit, may be employed for a longer time. According to very rough estimates, there may be from 15,000 to 20,000 CMEA workers employed in the West (developed industrial countries and developing countries combined). Finally, it is also known that the USSR sends a larger number of experts not only to the individual CMEA countries but also beyond the CMEA territory, particularly to several developing countries, however, apparently there have not been any figures published which are geographically more closely defined or at all quantitative. The following estimate of foreign employment in CMEA territory, which is assembled mainly from public CMEA sources, is, therefore, only meant to be a rough estimate for orientation for which we do not claim completeness or exactness.

In Chart 6 and the accompanying information, it was shown that, in the course of the 1960's, the level of employment increased in Eastern Europe as well as in the U.S.S.R. and that work force reserves in several CMEA countries are already extensively exhausted. The varying degree of the utilization of the labor supply in the individual

CHART 7.—ESTIMATE OF THE FOREIGN WORKERS EMPLOYED IN CMEA TERRITORY IN 1975 AND 1976 (NUMBER OF EMPLOYED)

Countries sending labor	Countries receiving labor							Total
	Bulgaria	Czechoslovakia	GDR	Poland	Hungary	U.S.S.R.	Outside CMEA	
Bulgaria.....			(Q) 10,000			(F) 15,000-20,000		
Czechoslovakia.....			<sup>1</sup> (Gr)	<sup>1</sup> (Gr)		(O) 5,000 (O) 6,000	(A) 1,000-2,000	30,000-35,000 7,000-8,000
GDR.....		<sup>1</sup> (Gr)		<sup>1</sup> (Gr)	(Q) 200	(O) 5,000	(A) 1,000	<sup>1</sup> +(Gr) 6,200
Poland.....		(B) 5,000 (Gr+I) 27,000	(B) 10,000 (Gr+I) 30,000			(O) 4,500 (P) 2,500	(B) 18,000 (A) 1,000	<sup>1</sup> +(Gr) 98,000
Hungary.....		(Gr) 2,000-3,000	(Q) 10,000			(O) 5,000	(A) 1,000-2,000	18,000-20,000
U.S.S.R.....	<sup>1</sup> (A)	<sup>1</sup> (A)	<sup>1</sup> (A)	<sup>1</sup> (A)			<sup>1</sup> (A)	<sup>1</sup> (A)
Yugoslavia.....		(B) 3,000-5,000	(B) 2,000			(B) 2,000		<sup>2</sup> 7,000-9,000
Total.....		37,000-40,000	62,000		200	45,000-50,000	<sup>2</sup> 22,000-24,000	<sup>3</sup> 166,000-176,000

Key to symbols: A=Graduate professionals and specialists; B=With their own construction company; F=Forestry operation in the Komi-ASSR; Gr=Agreement for border commuters; I=individual employment contracts; O=Natural gas pipeline—Magistrate Orenburg; P=Oil pipeline Polock; Q=Qualification, acquisition and betterment.

<sup>1</sup> Number unknown.

<sup>2</sup> The number of Yugoslav guest workers in Western Europe (approximately 1,000,000) is not included here.

<sup>3</sup> Within CMEA a total of 144,000-162,000.

CMEA countries has started the discussion in the first place about the possibility of using the temporary migration of labor and also anchored this possibility in the overall program of the CMEA. Chart 7 shows at this point the modest limits of foreign employment to date, which is in no way adequate to ease the right balance among the labor forces of several CMEA countries. In the GDR, which displays the largest employment of foreign workers, its portion of employment is 0.75% at the most, in Czechoslovakia, at the most 0.75%. In the Soviet Union, the employment of foreigners amounts to less than 0.05%. Even in the countries which allow a temporary migration of their workers to other countries, this has a minimal effect on the labor supply. In Poland, which sends the most labor abroad, the portion of the overall employment picture is only 0.5%.

#### PURPOSE OF EMPLOYING FOREIGN WORKERS

In the CMEA countries, therefore, it is emphasized that an improvement in the balance of the labor forces through the temporary migration of labor can neither be the sole nor the main purpose of the employment of foreign workers.[8] This can only be an additional source of assistance which can be meaningful for certain concrete functions, but which would be unimportant for purposes of macro-economic balance. The fact that countries which have a labor shortage allow, nevertheless, temporary migration of workers to other CMEA countries with a view toward other advantages is cited as an argument that the degree of utilization of the labor supply can not be the only consideration in the decisions regarding the employment of foreigners. On the other hand, the still ample labor reserves of Romania are tactfully mentioned because it remains apart for reasons of principle and isn't even participating in the gigantic Orenburg natural gas pipeline project with its own labor, but prefers to make its contribution in equipment.

However, it must be emphasized that, in certain branches or for certain concrete functions, labor assistance could be decisive for the success of a project. Especially the importation of the services of Polish construction firms in the GDR and Czechoslovakia must be emphasized here. Approximately 24 industrial and other construction projects of Polish contracting firms in Czechoslovakia are either already completed or are in the process of completion and contracts for 14 new industrial buildings have been signed. [8] Polish construction companies are providing construction and assembly services in 1976 in the GDR for more than 52 million rubles (\$74,000,000). One example is the work being done for the glass and ceramic industry in the industrial zone Ilmenau, which is supposed to be finished in 1977. Polish construction companies are, furthermore, at work in the cellulose and paper industry and are erecting paper mills in Blankenstein and mills for raw photography print in Weissenborn among other projects. They are also working on a nuclear power plant in northern GDR, on the expansion of brown coal open casting and are completing projects for the chemical industry. Finally, for the Palace of the Republic in Berlin, Polish firms with their own labor are completing the assembly of air and climate control units. [18]

In the opinion of some Eastern authors, the increase in efficiency of the CMEA territory by rational use of natural and economic conditions for production is a more important reason for the international migration of labor than the possibility of attaining equilibrium in the labor force. While putting this fundamental principle into effect, one should naturally heed the interests of the individual countries. Therefore, a concentration of labor in already highly developed industrial areas cannot be agreed to unconditionally because areas which have not been adequately developed would be adversely effected as a result. [8] Therefore, in discussions involving the investment participation of several CMEA countries, the postulate is sometimes upheld that the capital investments should be made wherever the labor supply exists, rather than having the labor come from a neighboring country. The construction of a common cotton mill by the GDR and Poland on Polish territory in Zawiercie in the Kattowitz Wojwod community which was supposed to go into operation in 1975 can be cited as an example. [19] In this common plant "przyjazn-Friendship" with equal participation of both partners, the contributions of both countries flow into a common international property. The GDR provided the project plans, steel constructions, building parts, electronic equipment and climate-control units, the Polish side completed the construction and the assembly with its own labor. The crew of between 2,000 and 2,300 people is composed for the most part of Polish workers, mainly women. The GDR only made several specialists available and provided its share of the management. [20] On the other hand, the construction of industries in the border area of the GDR and Czechoslovakia are also being considered as an alternative solution whereby the labor supply commutes across the border from neighboring Poland and Hungary because fewer employment opportunities are available at the time in their border districts. [9, 21]

In some cases, however, the natural conditions of a location can be so favorable that its use with the help of foreign labor can be to the advantage of both sides. Then a concentration of capital investment in the most suitable location is appropriate. The effectiveness of this procedure is documented by the construction of a cellulose plant with an annual production of 500,000 tons near Ust-Ilim along the Angara in the USSR. The GDR, Poland, Romania, Hungary and Bulgaria participated in the project. In spite of great distances and unusually severe climate conditions (in winter, as low as  $-60^{\circ}$  Celsius; in summer, as high as  $40^{\circ}$  Celsius), the advantages of this location are the presence of high-grade timber reserves for many decades to come, clean water of stable quality, cheap hydro-energy and the existing railroad connection.

Therefore, it is more advantageous to locate the processing phase there, too, than to export the commercial timber into the partner countries for processing. [20]

With the exception of Bulgaria, the CMEA countries named are contributing to this project by shipments of materials in the years from 1972 to 1977 within the framework of a credit connected to this project. Bulgaria, which apparently was unable to commit itself to the delivery of materials, is contributing to the construction

of the project with its labor. After 1979, the contributing countries will receive over the long run a certain portion of the finished products with which their investment will also be repaid. Whether, however, Bulgaria, whose workers must also be continually paid, will receive additional compensation in the form of shipments of finished products (for the added value created by its labor) is not known.

The cooperation between Bulgaria and the Soviet Union for the procurement of commercial timber in the Komi-ASSR is also based on the natural advantages of the location. The USSR made land areas in the Tajga available to Bulgaria where 3 combined forestry operations are to be erected. The Soviet Union is supplying the project plans, building materials, equipment and means of transportation for these plants, Bulgaria is supplying the labor. The investment share of the Soviet Union is 56%, of Bulgaria 44%. Accordingly, the entire commercial timber cut will be divided at the ratio of 1:1.33 between the partners. The timber procuring plants used by Bulgaria remain the property of the USSR. [9, 20]

The same motivation for the employment of workers abroad of the advantage of location because of natural resources applies to the gigantic project of the aforementioned natural gas pipeline from Orenburg in the Ural to the Western border of the USSR, to which all seven member countries of the CMEA are contributing. As many as 30,000 foreign workers from Bulgaria, the GDR, Hungary, Czechoslovakia and Poland will work in five sections, approximately equal in length, of the overall distance of 2,790 km for a period of four years under the most severe climate conditions in the Soviet Union. The Soviet Union is the main investor in the natural gas pipeline, providing the project documentation for the entire project, a gas processing and cleaning plant at the site of the natural gas well, as well as a portion of the pipes with a diameter of 1,420 mm. Romania will contribute its share also through the construction of processing and cleaning plants in Orenburg and through shipments of equipment, but it will not contribute to the construction there with its own labor. All other CMEA partners are assuming the full responsibility for the completed construction of their sections according to the turnkey method, i.e. they are expected to deliver their sections in operational condition. Therefore, the individual participating countries must also bring their complete furnishings, workshops, administrative facilities, machines and equipment, means of transportation, cranes and jack equipment, or erect them at the site. Also all necessary services for their own workers, living, cultural and social facilities, and restaurants, canteens, shops, laundry and cleaning facilities, cinemas and infirmaries with doctors and medical personnel must be brought along with the construction and assembly facilities, or be erected there. Even the care of the crew and their supply of necessary consumer goods is provided by special organizations of the participating countries, which must transport some of the goods from within the USSR, but also some must be transported to the USSR from the native countries. [13, 22, 23, 24, 25, 26, 27]

As compensation, the contributing countries will receive approximately 2.8 billion cbm of natural gas annually beginning in 1979 for a number of years in accordance with their share.

A further motivation for the employment of foreign workers within the CMEA territory is, according to authors from various member countries, the acquisition or perfection of the qualifications of the workers and the exchange of experienced specialists. Thus young workers or graduates of trade or occupational schools can, for example, work for 1 to 3 years in a neighboring country which has a higher technical or organizational standard in a particular branch or at a particular professional level. On the basis of a pact between Hungary and the GDR from 1967, several thousand young Hungarian workers and trade school graduates are receiving further education, increasing or acquiring their qualifications and gathering experience about production and labor organization in factories in the GDR, which they can use after they return to the factories of their native country. At the same time they are the labor force for the foreign factories in the GDR, which can be crucial for the fulfillment of operational plans. In 1974, the agreement was expanded so that in the future several hundred young workers from the GDR could also raise their qualifications and gather experience in certain Hungarian factories which have a high technical standard. [8, 9, 28, 29] Poland also has the opportunity to place young workers for a limited time in factories of neighboring countries in order for them to acquire or raise their qualifications. The training of workers in neighboring countries, even before new factories at home become operational, represents a special variety of this cooperation. [19]

The exchange of specialists among the CMEA countries is supported not only for reasons of the exchange of experience, but also to adjust temporary excesses or shortages in this sector. Cooperation in the areas of science and research requires not only the establishment of coordinating centers in the individual member countries and the dispatch of individual scientists and researchers for a limited time to a neighboring country, but also the establishment of international science and research centers which will receive personnel and technical contributions for their projects from the member countries. [20] The CMEA Institute for Economics and Science in Moscow and the Institute for Atomic Physics in Dubno in the U.S.S.R. are examples of such institutions.

#### PERSONAL MOTIVATIONS

Although the trade press in the CMEA countries is examining closely the various forms of employment of foreign workers and the respective interests of the countries participating in the international agreements, it is extremely limited in its reporting and analysis of the amount and forms of worker compensation and the employment and social conditions of the foreign workers.

In general, workers can only be influenced to sign an employment contract abroad if they are personally motivated to do it. This motivation does not necessarily have to be of a material nature although in the majority of cases a financial advantage is probably connected with the start of a job abroad. One can also imagine that, with the limitations on opportunities to travel abroad, particularly younger

people take the opportunity to go to a neighboring country even if they do not expect a direct financial advantage. In many cases, the thought of the higher economic and technical level of the neighboring country, the chance to advance their professional knowledge and to gather additional experiences through exposure to modern technology are reason enough for them. Furthermore, the acquisition of a foreign language is made much easier and a better choice of goods, especially durable consumer goods, is expected as an additional bonus. Due to the higher economic level of the neighboring country, there are probably higher wages than at home provided that they are equal to their labor colleagues in the neighboring country. This equality is guaranteed not only for wages, but also for the social benefits, working hours and other employment regulations in general. [28] In 1970, 75 percent of the young Hungarian workers, who were working in the GDR by reason of the aforementioned international agreement, already earned a monthly average gross income of more than 500 marks and 23.7 percent earned even more than 700 marks in a month.<sup>2</sup>

It can be assumed that the earnings of the young Hungarian workers in the GDR have increased along with the increase in average earnings in the GDR. However, a sociological study by the Hungarian Labor Ministry of the motivation of the emigrating youths concluded that two-thirds want mainly to acquire professional knowledge and to learn the German language in the GDR. "A relatively small number of the youths go into factories in the GDR because of the attainable relatively higher real wage or for other reasons." [28] To what extent these results reflect the objective opinion of the youths, or have been influenced by the character of the interviewer (experts from the Ministry which organizes the drafting and selection of those willing to emigrate) cannot be determined.

It can also be assumed that workers who are employed within the scope of minor border traffic or by reason of "unorganized" individual employment contracts do not receive any special benefits or allowances in addition to their normal earnings, but that they, nevertheless, receive a higher real wage because of the higher economic standard of the host country than would be possible at home. A Polish daily newspaper reports, e.g., that Polish girls who work in the North Bohemian linen factory Texlen in Trutnov receive the same income as their Czechoslovakian colleagues, namely, 1,500 crowns monthly, and that they often earn more than 2,000 crowns. [12]<sup>3</sup>

Until 1972, they apparently had to change part of this income into zlotys at a special exchange rate and deposit it in Poland, but since 1973 they are able to dispense with the Czechoslovakian crowns they earn as they see fit.

There are probably also additional income bonuses for organized employment abroad on the basis of special international pacts. A youth magazine in the GDR [30] reports in an article about the employment of Polish specialists in an aluminum plant in Calbe, who have been living and working in Calbe since the end of 1972 by reason

<sup>2</sup> According to the exchange rate for non-commercial payments, corrected for relative price trends, 500 marks equals 2,250 Hungarian forints; 700 marks equals 3,150 forints. The average income in Hungary in 1970 was 2,484 forints.

<sup>3</sup> By the same conversion principle as in the previous footnote, that is 2,550 and 3,400 Polish zlotys respectively. The average net wage in the textile industry in Poland was 2,500 zlotys.

of a government agreement, that they have come "because the offer attracted them: they can earn 600 marks, plus daily expenses". Unfortunately, more detailed information about the nature and amount of these daily expenses is not given.

Construction Workers, who are on the job abroad with their companies, receive foreign allowances in addition to their wages. According to Polish newspaper articles, Polish construction workers in the GDR received an average monthly income of about 1,000 marks<sup>4</sup> (in 1972) and an additional 1,500 to 2,000 zlotys in foreign allowances, which were paid out in Poland. [31] Similar additional allowances are also paid to the technicians and management personnel who work abroad. On special construction and assembly projects, extraordinary earnings are obviously made, which can hardly be compared with normal income. In an interview with the director for the preparation of the pipelines in the Czechoslovakian enterprise Hydrostav in Bratislava about his company's participation in the construction of the oil pipeline from the Yugoslavian Adriatic to Hungary and Slovakia on Yugoslavian and Hungarian territory, it was learned that an interval of several months will arise after completion of the previous job before the construction of the Adriatic pipeline can begin: "We cannot pay the special workers enough for interim jobs and they are not interested anyway, so that we have to take leave of them. And it is very difficult to win back a person once he has left the company." [32]

Exceptional procedures are even more valid for jobs in difficult climate conditions. This applies especially to the Orenburg-Gas Pipeline in the USSR. In this giant project, too, the press in the individual CMEA countries often reports about technical and organizational problems of this perhaps largest common enterprise in the CMEA, but only rarely about matters of wages and economic settlement of mutual efforts. Only an article in *Zycie Gospodarcze* [13] provides some insight into the wages of Polish specialists on this construction project. Construction vehicle operators and welders earn almost 600 rubles monthly (the average monthly wage in the USSR is 135 rubles monthly including social benefits). The salaries of engineers and technicians are correspondingly higher, the wages of less qualified workers correspondingly lower. The employee receives half of the wages in Poland in PKO-check,<sup>5</sup> which qualify him for preferred shopping in special stores, likewise he can transfer another quarter to Poland at a favorable exchange. The last quarter of the earnings is supposed to be used on the spot for board, leisure activity, the purchase of durable consumer goods, which can be taken into Poland duty-free, etc. Room and work clothes are without charge.

The current value of monetary earnings in rubles is over 10,000 zlotys monthly according to reports, which is again equal to 16,67 zlotys per ruble at the corrected exchange rate for non-commercial payments. At the same time each employee or his family members in Poland an average of 100 zlotys daily as a separation bonus and,

<sup>4</sup> That is about 5,000 zlotys. The average wage in the construction section in Poland was 2,992 zlotys monthly.

<sup>5</sup> PKO-checks have their face value in U.S. \$, the ruble is being exchanged at the official exchange rate: 1 ruble=1.43 \$ in PKO-checks. For 300 rubles, one receives 429 PKO-checks.

in addition, various premiums and extra pay in rubles and zlotys are intended for quality and work within deadlines. The total earnings are, therefore, to be placed at from 13,000 to 15,000 zlotys. In contrast, the average wage of a Polish construction worker in 1974 was 3,876 zlotys net monthly. The material attraction of reporting to work in the USSR is, therefore, extremely great and it can be assumed that a similar preference for the Orenburg-laborers is also shown in the other participating COMECON countries.<sup>6</sup>

#### PROBLEMS AND INSTITUTIONAL LIMITS OF EMPLOYING FOREIGN WORKERS

The conversion of ruble earnings into an effective zloty wage in the preceding paragraph points to a problem which prevents a more rapid expansion of the employment of foreign workers within the CMEA territory. It is the non-convertibility of the currencies and the unrealistic exchange rates which make it difficult for the individuals who are willing to go to work abroad. Therefore, for each project or group of foreign workers, special regulations must be set up which are more or less advantageous for the guest workers depending upon the urgency. For these and other reasons, a Yugoslavian journalist sees little hope in his report from Moscow for a larger share of Yugoslavian workers in factories of the CMEA countries although, due to the economic depression in the West, the interest in employment abroad in the East has been awakened and several CMEA countries, such as the GDR and Czechoslovakia, would like to hire Yugoslavian labor. "In spite of low personal incomes in the Eastern European countries (in comparison with Western Europe), the problem of how to transfer his earnings back to his own country leaves him little economic attraction to go abroad." [33]

Not until the Czechoslovak government after long hesitation declared that it was prepared to agree to the transfers in dollar currency<sup>7</sup> to Yugoslavia, could an agreement be reached between Prague and Belgrade about the employment of Yugoslav guest workers in Czechoslovakia. The GDR had also shown interest some time ago in the employment of Yugoslavian workers. However, since the GDR would not allow transfers in hard currency, no such agreement could be made. [10]

The difficult currency and finance matters, differences in the rights of workers, questions of social security and the varying level of earnings can better be solved, according to the opinion of Soviet authors, if all compensations are transacted on an international level. In this case, the foreign worker would be paid directly by the organization in the country from which he comes. The legal conditions of the employment and social security laws of his own country would be valid for him and also the question of the methods by which his earnings are transferred home would remain subject to an internal regulation. [9] This principle has obviously been applied to the

<sup>6</sup> There are even considerably stronger wage attractions in the West for jobs in extremely difficult conditions. According to a report in the American magazine "Time" of 8/2/1975, qualified workers on the construction of the Alaska-Pipeline receive between \$5,000 and \$6,000 monthly.

<sup>7</sup> In the clearing transactions, \$1 U.S. is transferred to Yugoslavia for 10 crowns, so that a qualified construction worker receives 300 clearing dollars or 4,100 dinars for 3,000 crowns.

Orenburg project. In the majority of cases, however, the foreign worker signs an individual employment contract with the foreign factory and in this case, all regulations regarding employment and social security rights in the foreign country are applicable although the question of transferring earnings or a portion thereof remains subject to regulation by the two countries.

Soviet authors also point out the problem of the surplus product which is created by the foreign workers. [8, 9] According to Marxist economic theory, the actual work is the only source of value. Even under socialist conditions, the worker only receives a fraction of the value he creates in the form of his wages. In contrast to capitalism, however, no surplus value arises which becomes the property of the capitalist employer, but the surplus product becomes the property of society in various ways and again becomes available to society in the form of publicly financed investments or in the form of public consumption funds (transfer payments and social, health and educational programs).

With employment abroad, the problem arises, first of all, of how to measure the surplus product in the first place. Does one proceed from the average economic norm of the surplus product (rate of profit) of the host country or from that of the country of origin of the foreign worker or perhaps from the norm for the surplus product in that sector? The authors do not provide an unequivocal answer to the question they raise.

Secondly, there is the problem of how the quantitatively measured size of the surplus product should be divided among the contributing countries. The country of origin of the foreign worker can base its claim to the surplus product on the fact that it absorbed the costs of educating the worker, that it provides the social services for his dependents and that he retains the right to social benefits such as social security in his old age in his homeland. On the other hand, the host country, too, provides the foreign worker with social services and, furthermore, the material prospects of his employment must be created in the first place through investments. No concrete solution to this question is offered either, except for the conclusion that it must be solved according to the principle of mutual advantage. [8, 9] It is also not clear whether this is merely a theoretical question or whether, in the negotiations between countries about the employment of foreign workers among individual CMEA countries these questions are to be asked concretely and in the form of accepted mutual settlements are to be compensated.

The whole catalogue of problems that has been listed here indicates that institutional barriers render a substantial increase in the employment of foreign workers improbable. The migration of labor within CMEA territory will probably remain, therefore, merely an additional instrument for the solution of especially precarious labor problems.

#### DIFFERENT PROBLEMS CONCERNING FOREIGN WORKERS IN THE WEST AND EAST

In conclusion, it must be remembered that the employment of foreign workers within CMEA differs in many respects from the problem of guest workers in the West. The scale of the employment of foreign workers in the East is significantly lower, so that one can hardly

speak of an influence of these workers on the economic development of the host country. Whereas in the West, in some developed industrial countries the fraction of guest workers within overall employment is so large that it represents a real growth factor. This may not be as noticeable today, in a time of economic slow-down, but there is no doubt that, until recently, the stream of guest workers played a decisive role in the uninterrupted and relatively rapid economic growth of Western Europe. Also, the motivations for the employment of foreign workers in the CMEA countries has been shown to be far more differentiated than in the West, where it is basically a matter of the attainment of a higher income or the alternative to unemployment or agricultural underemployment in the home country.

In the West, furthermore, the decision to go abroad as a guest worker is a personal matter; in the East, such a decision is subject to governmental regulation because neither entry nor exit is possible without previous consultation between the governments. The oft-criticized discrimination against guest workers in the West seems to occur less often in the East. In principle, the foreign workers are equal to domestic labor in every respect. It also does not seem to be the case that foreigners are employed mainly in unskilled unprestigious and poorly paid occupations and jobs. However, their position does differ from that of the domestic workers because they must live separated from their families for long periods of time and because they are often lodged in billets rather than in their own apartments. Finally, foreign workers in the East are usually employed in compact groups whose inner cohesion and group discipline was organized at home.

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## INDUSTRIAL PRODUCTION IN YUGOSLAVIA, 1952-75\*

BY JOHN H. MOORE \*\*

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Knowledge of the growth of industrial output in Yugoslavia has always been based on the movement of the official index of industrial production, compiled and published by the Federal Institute of Statistics, and evaluations of the record of growth have necessarily been made on that same basis. In view of the widespread use of the official index, it is surprising that its methodology has never been seriously questioned. Yet as soon as the methodology is investigated, it becomes evident that interpretation of the official index is very difficult and comparisons with the growth rates of other countries, where more conventional methods are used, are almost meaningless.

To facilitate such comparisons, a new sample index of Yugoslav industrial production, calculated by methods commonly in use in the West, has been compiled and is reported in this paper. Several variants of the index are presented, but all of them indicate that the growth of industrial production is overstated by the official index, in the sense that the annual growth rate implied by the official index is higher than the rate which is implied by indexes calculated with more conventional methods. The size of the overstatement varies depending on the variant of the sample index and the period of time over which growth is measured. For the entire period, the official index overstates annual growth rates by one to one and one half percentage points; instead of an annual growth rate of about 10%, the sample indexes indicate rates of somewhat less than 9%. Over the 24 year period, this means that industrial production expanded by a factor of about seven, rather than by the factor of nine implied by the official index.

Comparisons based on the sample index with industrial growth rates in other countries brings Yugoslavia's record in line with experience elsewhere. Taking rough account of the level of industrial development at the beginning of the period, growth of industrial capacity over the

\*The research reported here is part of a longer study on Yugoslav industrialization undertaken while the author was a National Fellow at the Hoover Institution, Stanford University. I am grateful to the Hoover Institution and to the Thomas Jefferson Center Foundation, Charlottesville, Virginia, for their generous support of this work. Rush V. Greenslade, G. Warren Nutter, and Gertrude Schroeder provided valuable comments on earlier drafts of the paper.

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subsequent twenty years fits a pattern observed in a number of other industrialized and industrializing countries. Observation of this relationship provides evidence of the effect of the methodological differences between the official index and conventional measurements on comparisons of growth rates, and shows why comparisons based on the official index are likely to be misleading. According to comparable measurements, industrial growth in Yugoslavia was not exceptional; given the high rates of investment in industry during the period, this record suggests relatively inefficient use of investment resources. More extensive examination of this question than is possible within the space limitations of this paper seems worthwhile.

Before moving on to the main body of the paper, a final caveat is in order. The sample indexes are intended to represent only the growth in productive potential in the Yugoslav industrial sector, and movements of these indexes can in no way be taken to reflect corresponding movements in the well-being of Yugoslav citizens. All of the well-known conceptual shortcomings of aggregate income measures as welfare indexes are seriously compounded in Yugoslavia by endemic price controls, turnover taxes, and other interventions in the market. Furthermore, the sample indexes pertain, of course, to only one sector, and their weighting systems are intended to correspond to relative production costs, not to relative purchase costs. To the extent that the weights accurately reflect production costs, the movements of the sample indexes provide a measure of the increase in the capacity of the industrial sector to manufacture products. The sample index movements reveal nothing about the uses to which those products may be put nor do they show anything about the value of the output to the Yugoslav consumer.

In what follows, the first two sections discuss briefly the official production index and the output data used in its construction. The next section describes the methods used in calculating the sample indexes. Following that are sections treating the results of the calculations, some tests of the properties of the new index, and some aspects of the growth patterns.

## I. THE YUGOSLAV PRODUCTION INDEX

### 1. *General description*

The Yugoslav Federal Institute of Statistics claims that its production index is equivalent to a value added index with annually changing weights. The index for a given year is calculated in two stages. First, an annual relative for each branch of industry is calculated as the weighted sum of the annual relatives of the products included in the branch. Second, the branch annual relatives are aggregated by means of a set of branch weights.<sup>1</sup> The growth of industrial output over longer periods is measured by linking the relevant set of annual relatives. Not only does the annual linking cause incomparabilities with other indexes, the weights used in the official index are open to question.

<sup>1</sup> See Savezni zavod za statistiku (henceforth SZS), *Indeks fizičkom obima industrijske proizvodnje: metodološka i ponderacioni sistem* (Metodološki materijala broj 82), Beograd, 1957.

## 2. Weighting system

From 1952 through 1969, the weights for individual products and for branches of industry were based on the sum of wages and depreciation;<sup>2</sup> since 1970, they have been based on the Yugoslav concept of national income. The relation of the sum of wages and depreciation to value added is more tenuous in Yugoslavia than it is in a capitalist system. First, depreciation rates typically have been below those required to maintain the real value of capital.<sup>3</sup> Second, wages (or personal incomes, as the Yugoslavs prefer to call them) have always been a residual.<sup>4</sup> The size of the residual depends on many factors: turnover tax rates, rates of deductions charged against enterprise earnings, variations in market conditions for different products, and the impact of price controls. The influence of these factors has not been uniform across industrial branches, and the weighting system based on them therefore is distorted in an unknown way.

The methods used for cumulating and assigning weights to product groups and industry branches are a further source of distortion. Weights for product groups are compiled from the financial reports of enterprises which report production of the products in question. The procedure requires arbitrary assignments of costs by enterprises and entails unknown variations in the coverage of the products involved. Branch weights are obtained from the wage and depreciation data for the branches as a whole, and it is not clear whether they are the sum of the weights obtained for the products included in the branch.

The final peculiarity of the Yugoslav weighting system is that the weights are changed every year.<sup>5</sup> While annual changes in weights are required for some indexes,<sup>6</sup> their use causes difficulties in making comparisons with commonly used fixed-weight indexes. Furthermore, certain well-known interpretations of the movement of fixed weight indexes are lost when moving weights are used.<sup>7</sup> The combination of moving weights with the method of computing branch weights seems to be an important source of upward bias in the Yugoslav index.<sup>8</sup>

## II. PRODUCTION STATISTICS

### 1. Collection and aggregation

The output data used in the official index (and in the sample indexes) are collected and published by the Yugoslav Federal Institute

<sup>2</sup> The weights have generally been lagged two years, so that the wage plus depreciation formula held for the years through 1971.

<sup>3</sup> This point has often been emphasized by Yugoslav economists; see, e.g., Branko Suhina, *Amortizacija osnovnih sredstava* (Zagreb, 1970), pp. 39-4. Capital revaluations were carried out in 1953, 1958, 1962, 1966, and 1971; see Nemađ Butaš and Mihailo Puletić, *Priručnik o revalorizaciji sredstava organizacija udruženog rada*, Beograd, 1971, pp. 114 ff. for description. After 1966, depreciation rates were no longer specified by the central authorities; instead, minimum rates were laid down and enterprises were given the authority to set their own rates subject to the minima.

<sup>4</sup> For a summary of the evolution of the computation of personal incomes, see Ivan Paš, "The Development of the System of Distribution of the Social Product and Net Income," *Yugoslav Survey* 11:3 (August 1970), pp. 65-88.

<sup>5</sup> This has been so since the 1957 index was calculated. Before then, 1951 weights were used to compute the index for 1939 and for 1940-53, and 1953 weights were used for 1954-56. See *SZS, Indeks fzičkog . . .* loc. cit.

<sup>6</sup> For example, in the Divisia index. See D. W. Jorgenson and Z. Griliches, "The Explanation of Productivity Change," *Review of Economic Studies* 34:3 (July, 1967), 249-82, and W. E. Diewert, "Exact and Superlative Index Numbers," *Journal of Econometrics* 4 (1976), 115-45.

<sup>7</sup> See G. Warren Nutter, "On Economic Size and Growth," *Journal of Law and Economics* 9 (October 1966), pp. 163-88, for a development of these properties of fixed weight indexes.

<sup>8</sup> The weights used in the index for a particular year are not derived from the wage and depreciation data of that same year, but rather from the data of two years earlier. The reason for this is obscure.

of Statistics. Output is reported by enterprises according to the so-called product nomenclature.<sup>9</sup> The procedure requires that each enterprise report the output of every product it makes which is listed in the nomenclature, regardless of whether the product is classified in the same industry branch as the enterprise itself<sup>10</sup> and regardless of the disposition of the product (further processing, sale, or other use). Because the nomenclature cannot be so detailed that literally every industrial product is listed separately, some aggregation of products takes place at the enterprise levels.<sup>11</sup>

## 2. Technical drawbacks

First, because production is reported at many stages of fabrication, there is double counting of output. Therefore, either the weights used should be good approximations to value added or the index should be based on subsets of products chosen so that double counting is eliminated. The Yugoslav index for industry is comprehensive; officially published subindexes (production equipment, reproduction materials, and consumption goods) do not correspond to different stages of fabrication.

Besides double counting, accuracy of reporting is likely to be variable. It is up to enterprise managers to report production; how carefully they do so will vary from one to another, depending on a number of factors.<sup>12</sup> Mere random variability should not be expected; the Yugoslav planning system and development policy probably introduce a bias in favor of more comprehensive reporting in high priority branches of industry. The extent of variability would also be influenced by factors affecting the costs of monitoring reporting accuracy; for example, better accuracy and coverage should be expected in branches with fewer enterprises, in branches in which a larger proportion of output is produced by enterprises classified in those branches instead of by enterprises outside them, and in branches with greater product uniformity.<sup>13</sup> Inspection of these factors suggests that in 1961 the greatest accuracy should have been observed in the energy and metallurgy branches. Chemicals and electrical products would have fallen in the next group, metal products in the next, and building materials, food products, and textiles in the last.<sup>14</sup> Accuracy in reporting output of new products, presumably would be affected by the same factors.

It is possible that systematic bias is caused by the reporting system, although its quantitative importance cannot be determined on the

<sup>9</sup> Further description and discussion of the following observations will be furnished by the author on request.

<sup>10</sup> Enterprises are assigned to industry branches for accounting purposes on the basis of their principal activities.

<sup>11</sup> The number of entries in the nomenclature for annual enterprise reports, and hence the fineness of detail in which products are classified, grew during the twenty years studied here. In 1957, some 503 items were listed; in 1972, the list contained about 2,300 items. See SZS, *Indeks fizičkom* . . . , p. 5, and SZS, *Nomenklatura proizvoda za godišnji izveštaj industrije* (Metodološki materijali broj 203, Beograd, 1972).

<sup>12</sup> Examples include their attitudes toward reporting output, sanctions for detected inaccuracies, probabilities of detection, and alternate uses of their time. Costs to the authorities of enforcing uniform reporting standards would be high.

<sup>13</sup> For example, the petroleum and petroleum products branch comprised only 3 enterprises in 1968; in that year, there were 243 enterprises in the building materials branch, and the two largest produced on 16% of branch value added. See SZS, *Industrijska preduzeća 1969* (Statistički bilten broj 695), Beograd, 1971.

<sup>14</sup> Branch priorities were established on the basis of investment priorities given in the 1957-61 and 1961-65 Five Year Plans. See "Društveni plan privrednog razvoja Jugoslavije od 1957. do 1961. godine," *Službeni list 53/1957* (prosinca, 1957), pp. 1029-44, and "Društveni plan privrednog razvika Jugoslavije od 1961. do 1965. godine," *Službeni list 53/1960* (prosinca, 1960), pp. 969-97. The number of firms in each branch in 1961 was obtained from SZS, *Statistički godišnjak SFRJ 1963* (Beograd, 1963), p. 177. Rough rankings of branches for degree of product uniformity and proportion of output produced within the branch were made by the author.

basis of available data. Branch shares in total industrial output may be biased according to the completeness of reporting, and those biases should change with changes in the factors affecting coverage. Branch growth rates would be unaffected by the reporting system if there were no systematic changes in those factors and if the product set did not change. Between 1953 and 1971, important increases in the number of enterprises took place in the electric products, chemicals, and printing and publishing branches, and important declines in numbers occurred in the coal and food products branches.<sup>15</sup> It seems likely that the proportion of output reported for a given branch that was produced by enterprises classified in the same branch rose in the process of industrialization, but whether this had any differential effects among branches is conjectural.<sup>16</sup> It also seems likely that the degree of product uniformity declined in branches producing highly fabricated goods, especially metal products, electrical products, and chemicals; relatively fewer new products probably were introduced in the textiles, wood, and food products branches. Taken together, these changes suggest that coverage may have deteriorated in electric products, chemicals, printing and publishing, and, to a lesser extent, metal products; coverage may have improved in coal and food products.

### 3. Other sources of distortion

Besides these technical problems, there may be other distortions in the output data. Yugoslavia's revisionist position and insistence on its interpretation of Marxist doctrine make good economic results particularly important. There is an incentive to overstate production and there are no statistical agencies independent of the state to provide outside checks on the official data. Official data have not shielded clear of reporting poor performance. However, difficulties similar to many of those well-known in Soviet statistics can be noted in the Yugoslav data, suggesting that the statistical service engages in some of the same kinds of practices.<sup>17</sup>

For example, output series are added and dropped, usually without explanation. Sometimes it seems clear that a series is added because the item involved is a new product, but this surely would not apply to such things as gunpowder and bread.<sup>18</sup> The reasons for dropping series are less clear; for example, oxygen production simply disappears from one source after 1962. Second, there is a good deal of ambiguity in the specification of the output series. Ambiguity is particularly important in highly fabricated products, in questions of product quality, and in the use of inadequately specified conventional units for the measurement of the output of some products. Third, coverage of series changes from time to time, and data to link one coverage with another usually are not given. While no set of output statistics is free from some problems of this sort, the existence of motive and opportunity for

<sup>15</sup> Numerically large changes also occurred in electric power (decline), ferrous metallurgy (increase), MBMW (increase), building materials (decrease), textiles (increase), and rubber (increase) branches, but in these cases the changes seemed unlikely materially to affect monitoring costs. Data were obtained from SZS, *Statistički godišnjak FNRJ 1954* (Beograd, 1954), p. 149, and SZS, *Statistički godišnjak SFRJ 1973* (Beograd, 1973), p. 179.

<sup>16</sup> Probably more important for some industry branches was the decline of the handicraft (zanatsvo) sector. Apparently most affected were the food, leather, textiles, and metal and electric products branches.

<sup>17</sup> For discussion of the Soviet case, see Gregory Grossman, "Soviet Statistics of Physical Output of Industrial Commodities: Their Compilation and Quality," Princeton, 1960.

<sup>18</sup> Gunpowder was first reported in 1959, and bread in 1964.

tinkering with the data and certain peculiarities observed in them suggest that some manipulation is done to improve the measured performance of the industrial sector. Nothing can be done about this except to take note of it.

### III. THE NEW INDEXES

The sample indexes are Laspeyres and Paasche quantity indexes. The physical output data upon which these indexes are based were taken from official sources,<sup>19</sup> chosen because they provide continuous coverage of a fairly large number of output series throughout the period from 1952 to 1971. The weights were derived as follows.

Several sets of weights were calculated, all intended to provide estimates of value added in production. One set of weights is based on producer prices for specific individual industrial products.<sup>20</sup> In many, if not most cases, prices were given for individual products; as a result, the weights derived from them had to be imputed to broader product classes in the construction of the index, since the nomenclature groups in which output data are classified generally include more than a single product. The sample indexes based on these weights are called "imputed weight" indexes. The second set of weights is based on unit values of industrial products. Unit values were calculated from Yugoslav data on realized sales values and physical quantities sold.<sup>21</sup> The unit value data provide greater detail than the price data. Furthermore, they are organized more or less along the lines of the nomenclature, so it is possible to determine which products are included in individual product groups. For example, in the calculation of the 1961 unit-value weight for starch products, sales and delivery data for three types of starch products were available in the source; the unit value computed from these data corresponds to a base-year weighted average of the unit values of the three types.<sup>22</sup>

Weights based on these unit values can be assigned to the corresponding output series with more confidence than the price-based weights because of the better information about the products included in the output classes. Sample indexes based on these weights are called "direct weights" indexes. On the whole, the unit-value weights are probably more reliable than the price weights. Unfortunately, unit values can be calculated beginning only in 1959, so there is no alternative to the use of price weights for the construction of a Laspeyres index with a 1952 base.

The weights were developed in three stages. First, the basic information on price or unit value was obtained. Second, turnover tax was eliminated from those values. Third, the resulting figure was adjusted by estimates of the ratio of value added to gross value (net of turnover tax) for the product groups to which the item corresponded.

Turnover tax was eliminated for the following reason. Since Yugoslav enterprises may sell their products on the market, rather than delivering them to a state trading network, there is some question

<sup>19</sup> *Industrija*, published annually by SZS. A full listing of the data and complete citations for these and the weight data are available from the author on request.

<sup>20</sup> Price data were obtained from the CENE series published by SZS.

<sup>21</sup> Unit value data were taken from the *Industrijske proizvodi* series published by SZS.

<sup>22</sup> Full details of these and other computations involved in obtaining weights are available from the author on request.

of the incidence of the turnover tax and therefore of how to treat it when using product price or unit value to estimate product cost and ultimately value added. Incidence depends on the elasticities of demand and supply for the product in question, and different estimates of these elasticities will produce different estimates of the incidence and thereby lead to different conclusions about how to treat the tax in computing weights. It can readily be shown that the smaller the supply elasticity and the greater the demand elasticity, the more heavily the turnover tax is shifted to factors of production (at least in the short run).<sup>23</sup> According to the conventional theory of the self-managed firm, supply elasticities are relatively low.<sup>24</sup> Furthermore, much of the period under study here was characterized by inflationary conditions, and there was considerable government intervention in the market, particularly in setting ceiling prices. Where there was excess demand for its product, a seller in effect would face an infinitely elastic demand curve. For these reasons, and in the interests of simplicity and consistency, the best assumption seemed to be that the turnover tax was borne entirely by factors of production. Therefore, turnover tax was deducted *in toto* from the price or unit value when calculating product cost.<sup>25</sup>

After turnover tax was removed from the price or unit value, the resulting figure was adjusted to provide an estimate of value added. At this point, some aggregation of the output series was unavoidable, because the data on which the adjustments were based were not available on a product-by-product basis. The adjustment data were obtained from a series of statistical bulletins on the performance of enterprises in the social sector which the Federal Institute of Statistics began publishing in 1961.<sup>26</sup> These bulletins contain financial information about industrial enterprises, including the so-called social product (*drustveni proizvod*) of the enterprises, turnover tax paid (*porez na promet*), and costs of purchased materials and services (*materijalni troskovi*). The sum of social product and costs of materials and purchased services corresponds to the gross value of sales of the enterprise; hence, the ratio of social product (net of turnover tax) to the sum of itself and materials costs can be taken as the ratio of value added to product price or unit value (net of turnover tax). The avail-

<sup>23</sup> This can be shown most easily by the use of arc elasticities. If  $p_0$  is the price of the product with no turnover tax and  $p_1$  its equilibrium price after the imposition of the tax, the incidence of the tax can be measured by the ratio of  $p_1$  to  $p_0$ . Let the tax rate be 100t per cent and denote the demand elasticity by  $\eta_d$  and the supply elasticity by  $\eta_s$ .

Then

$$\frac{p_1}{p_0} = (1+t) \left[ \frac{\eta_s - \eta_d}{\eta_s - \eta_d(1+t)} \right].$$

The relevant partial derivatives of this ratio are:

$$\frac{\partial(p_1/p_0)}{\partial \eta_s} = (1+t) \left\{ \frac{-t\eta_d}{[\eta_s - \eta_d(1+t)]^2} \right\} > 0 \text{ for } \eta_s < 0;$$

$$\frac{\partial(p_1/p_0)}{\partial \eta_d} = (1+t) \left\{ \frac{-t\eta_s}{[\eta_s - \eta_d(1+t)]^2} \right\} < 0 \text{ for } \eta_s > 0.$$

Thus, the smaller the supply elasticity, or the greater the demand elasticity (i.e., the more negative it is), the smaller is the ratio of  $p_1$  to  $p_0$ , and the more heavily does the turnover tax bear on the producer.

<sup>24</sup> See Benjamin Ward, "Workers' Management in Yugoslavia," *Journal of Political Economy* 65:5 (October 1957), pp. 373-86, and Jaroslav Vanek, "The General Theory of Labor-Managed Enterprises" (Ithaca, 1970).

<sup>25</sup> During 1961, products whose rates were not otherwise specified were subject to a flat 0.5% tax. This flat rate was ignored in the computations.

<sup>26</sup> The source used for this purpose is *Industrijska preduzeća*, published periodically by SZS.

able data permitted the calculation of this ratio for a number of groups of products in almost all industrial branches.<sup>27</sup> These ratios were then used to adjust the net prices or unit values of those products belonging to the available subgroups.

#### IV. THE RECORD OF INDUSTRIAL GROWTH

##### 1. Overall industrial growth

Industrial production grew at a rapid but diminishing pace from 1952 to 1975. According to the official index, industrial output rose about nine-fold over this period, an expansion which corresponds to an average annual growth rate of 10.0 per cent. According to the sample indexes, the expansion was in the neighborhood of 80 per cent of that claimed by the official index, or a reduction in the annual growth rates of about one to one and one half percentage points per year. The official index and several versions of the sample index are presented in Table 1; average annual growth rates for the period as a whole and for several subperiods are shown in Table 2.

TABLE 1.—INDEX OF INDUSTRIAL PRODUCTION IN YUGOSLAVIA, 1952-75

Year:	Official Yugoslav index (1)	1952 imputed weights <sup>1</sup> (2)	1961 imputed weights <sup>2</sup> (3)	1961 direct weights <sup>3</sup> (4)	Moving weights <sup>4</sup> (5)
1952.....	100.0	100.0	100.0	100.0	100.0
1953.....	111.1	102.4	104.5	107.6	102.4
1954.....	126.3	118.4	118.3	121.6	118.4
1955.....	147.0	140.0	136.9	140.6	140.0
1956.....	162.1	154.6	149.4	153.8	154.6
1957.....	189.2	179.9	172.0	180.8	179.9
1958.....	209.8	200.0	187.4	200.5	200.0
1959.....	237.7	217.3	205.5	226.1	217.3
1960.....	274.3	245.4	232.3	258.6	245.4
1961.....	294.0	260.2	250.0	275.0	260.2
1962.....	314.0	281.6	274.4	302.2	284.5
1963.....	362.7	324.0	311.0	344.4	326.8
1964.....	421.1	366.9	350.6	398.2	380.2
1965.....	454.8	389.2	371.5	423.0	404.6
1966.....	474.4	408.6	392.6	436.6	417.4
1967.....	473.0	403.6	389.6	428.3	412.0
1968.....	503.3	420.4	406.3	446.0	433.2
1969.....	560.2	458.3	440.0	489.0	476.2
1970.....	611.2	489.0	467.3	518.4	506.7
1971.....	674.2	522.0	504.3	560.6	549.2
1972.....	726.8	564.4	533.5	591.4	584.0
1973.....	770.4	597.7	562.0	617.3	609.6
1974.....	852.8	653.2	615.0	680.2	672.3
1975.....	900.6	677.1	636.1	713.9	705.6

<sup>1</sup> Weights derived from 1952 product prices; 1952 product sample.

<sup>2</sup> Weights derived from 1961 product prices; 1952 product sample.

<sup>3</sup> Weights derived from 1961 product unit values; 1952 product sample.

<sup>4</sup> For 1952-61, weights derived from 1952 product prices; 1952 product sample. For 1961-71, weights derived from 1961 product unit values; 1961 product sample. For 1971-75, weights derived from 1971 product unit values; 1971 product sample.

Source: Col. 1—Savezni zavod za statistiku, "Industrija 1975" (S.B. 967, Beograd, 1976), p. 10. Cols. 2-5—See appendix A for description of sources.

<sup>27</sup> The exception was rubber products, for which only a single ratio could be calculated.

TABLE 2.—ANNUAL RATES OF GROWTH, YUGOSLAV INDUSTRIAL PRODUCTION SELECTED PERIODS, 1952-75.

Period:	Annual average growth rate <sup>1</sup> according to				
	Official index	1952 imputed weights index	1961 imputed weights index	1961 direct weights index	Moving weights index
1952-75.....	10.0	8.7	8.4	8.9	8.9
1952-57.....	13.6	12.5	11.5	12.6	12.5
1957-61.....	11.6	9.7	9.8	11.1	9.7
1961-66.....	10.0	9.4	9.4	9.7	9.9
1966-71.....	7.3	5.0	5.1	5.1	5.6
1971-75.....	7.5	6.7	6.0	6.2	6.5

<sup>1</sup> Calculated between terminal years according to the compound interest formula.

Source: Calculated from table 1.

The sample indexes differ in their product coverage, the result of limitations in the availability of price (or unit-value) and output information. Generally speaking, as the point of observation recedes into the past, information diminishes about both components of the indexes. The sample index based on 1952 product prices has the most limited coverage (154 series for different products or sets of products), mainly because of absence of 1952 product price data. By 1961, enough additional information about product prices was available to expand the sample by about one-third (to 208 series, exactly). In contrast, unit values could be obtained for a much larger number of products in 1961 and 1971; coverage of the direct-weights index was restricted not by information about weights, but by lack of data for physical production. The index based on 1961 unit values had a product sample about twice as large for the first decade as did the one based on 1952 product prices (320 series), and that based on 1971 unit values was about  $\frac{1}{2}$  larger (442 series).

Because unit values were not available until 1959, it was possible to calculate only one index with 1952 weights; thus, only one Laspeyres index is available for the first decade of the period. The indexes based on 1961 prices and unit values are Paasche indexes for the first part of the period and Laspeyres for the second. The moving weights index links the 1952 imputed weights index to the 1961 direct weights index at 1961, and then links that index to the 1971 direct weights index at 1971.

Space does not permit full discussion of the reasons for the slower growth of the sample indexes.<sup>28</sup> It does not seem to be the result of the coverage of the sample indexes. Analysis of physical growth rates for products excluded from the samples because weights could not be calculated shows median growth rates fully consistent with the growth rates estimated by the sample indexes. Substitution of official Yugoslav-branch weights, or branch weights based on national income shares, themselves open to criticism on several counts, for the value-added branch weights implied in the sample indexes produces only insignificant changes in the observed growth rates. The higher growth rates of the official index seem to result from the method of calculation, in which branches which include relatively fast-growing products receive progressively heavier weights as time passes, and possibly from the treatment of new products, about which little is known.

<sup>28</sup> A more extensive discussion of these reasons may be obtained from the author.

## 2. The underlying production data

Defects in the production data upon which both the official and sample indexes are based were mentioned above. These defects raise questions about the accuracy of all indexes of Yugoslav industrial production.

The sample indexes are based entirely on production in physical units, most often weight, but also volume, numbers, area, or kilowatts. The official index is based almost entirely on physical units as well, but some series are estimated on the basis of hours of labor or value of output.<sup>29</sup> Units of measurement have the greatest potential for distortion in the sample indexes in metal products, where weight is the most common measure of the production of complex machinery and equipment. The value added weights are expressed in dinars per ton or kilogram; if production costs per ton or kilogram changed systematically because of changes in the kinds of machinery being produced, and if the weights were not changed to reflect these developments, the measurement of output would be biased. Since the sample index is basically a fixed weight index, measurement problems of this kind are potentially important.

Production costs could change for many reasons, apart from changes in factor supplies or technology: machines could become more sophisticated, entailing higher costs per ton; they could be produced with greater precision, with the same result; and so forth. There is little evidence which could form the basis for a judgment on questions of this sort. Another source of changes in production costs, when those costs are expressed in terms of dinars per unit weight, is change in average size of the products involved. *Ceteris paribus*, it is likely that costs per ton fall when the number of units per ton falls and vice versa; adding weight to a machine, given the same production technology, degree of sophistication, and precision, ordinarily would involve only using heavier materials in it, without other changes in costs. There are some data which can be used to get a rough idea of changes in sizes of machinery and equipment; however, these data are fragmentary and generally do not cover the entire period from 1952 to 1971.

For types of machinery for which these data are available, there is little suggestion that the units of measurement introduce net bias for this reason.<sup>30</sup> In transportation equipment, average size for most items rose, which would tend to produce an upward bias in a fixed-weight index where output is measured in tons.<sup>31</sup> Most types of metal- and wood-working machinery also became larger in average size, as did much of textile, leather, building materials, and construction machinery.<sup>32</sup> In agricultural machinery, more individual items for

<sup>29</sup> According to official sources, in 1973 some 95.5% of the output included in the official index was measured in physical terms, 1.8% in hours of labor, and 2.7% in value. In recent years, measurement in hours of labor was most important in shipbuilding and significant in MBMW; measurement in value was most important in chemicals and lumber and wood products. Values are generally expressed in current prices with no effort to correct for inflation; in itself, this practice would impart an upward bias to the official index. See SZS, *Industrija 1973* (Statistički bilten broj 847; Beograd, 1974), pp. 6-7, for a discussion.

<sup>30</sup> The following discussion is based on information drawn from SZS, *Industrijski protzodi 1970* (Statistički bilten broj 717; Beograd, 1972), and from SZS, *Industrija*, various issues.

<sup>31</sup> Average size of trucks, buses, diesel engines for them, diesel and electric locomotives, freight cars, and other railroad coaches and vans rose between 1952 and 1971. Average sizes of tractors, motorcycles and motorcycle engines, and marine engines fell; those of passenger cars and their engines stayed about the same.

<sup>32</sup> For these items, data are available only for 1959-71. During that period, in metalworking machinery, presses and bending and cutting machines became larger; average sizes of grinders, drills, lathes, sharpeners, and the like fell or remained about the same. Woodworking drills, lathes, saws, and sanders all became larger or stayed about the same; combination woodworking machines became smaller. Average sizes of looms, spinning machines, leather working machines, brick and tile making machines, and dumpers rose, and those of rubber-working machines, dredges, concrete mixers, crushing and granulating machines, and bulldozers fell or remained about the same.

which data are available went down in average size than rose, but, as with the other types of machinery, the quantitative significance of this is unknown.<sup>33</sup> The underlying data are neither complete enough nor given in sufficient detail to allow firm conclusions or to justify attempts at quantification, but there seems to be little or no suggestion that a fixed-weight index would be biased upward on this account. Even if the sophistication or quality of the machinery were systematically related to size, the fact that average size apparently changed in both directions would tend to reduce any resulting bias.

Instruments and precision machinery are product groups in the metal products branch in which these questions are potentially important. Unfortunately, much less information is available for these groups. Products from them which are included in the sample indexes usually are measured in numbers of units.<sup>34</sup> In most cases for which data are available, the average unit size of these products fell; a base year weight might understate production costs in these cases.

Electrical products is another branch in which units of measurement could create bias. Again, few data are available to determine whether the units could be suspected to cause net bias. For rotating machinery, measurement is in numbers of units; the available data suggest that underweighting in a fixed-weight index could result.<sup>35</sup> Data for most household electric appliances are less complete than those for other goods, generally pertaining to shorter periods, sometimes terminating before 1971. The available information gives no clear indication of bias in either direction.<sup>36</sup> Altogether, there is little reason to suspect that an overall bias is introduced in the electrical products branch by the units of measurement, at least on the basis of the available information.

Questions of units of measurement arise in a number of additional cases. In lumber and wood products, veneer, plywood, and parquet flooring are entered into the sample index in cubic meters; in each case, information about square meters per cubic meter would be useful in judging whether systematic bias is thereby introduced. The textiles branch presents many similar problems, including the use of conventional, but undefined, units ("effective tons" for yarn and thread), square meters for fabrics without specification of weave, and so forth. The ferrous and nonferrous metallurgy branches contain similar examples (for example, steel profiles and extruded aluminum products are measured in tons). Unfortunately, data which could provide insight into the biases which could be introduced by these units of measurement are not available.<sup>37</sup>

<sup>33</sup> During the 1950-61 period, agricultural machines whose average size fell include barrows, horse-drawn plows, sowing machines, hammer mills, feed choppers, and incubators. The average sizes of fertilizer spreaders, grain combines, and corn huskers rose. Those of tractor-drawn plows, rollers, rakes, elevators, sprinklers, and feed driers stayed about the same.

<sup>34</sup> This includes sewing and accounting machines, typewriters, and clocks. Balances and medical and veterinary equipment are measured in tons, and no data are available for estimating changes in size.

<sup>35</sup> The average power ratings of large (over 70 kw) rotating machines rose between 1952 and 1971; those of medium (1.6-70 kw) and small (less than 1.6 kw) rotating machines fell. No definite conclusion can be drawn on the basis of this information, but one might speculate that increases in size of already large motors and decreases in size of already small ones would both cause increases in unit costs, *ceteris paribus*. The change in power rating of medium size motors could be assumed to have a negligible effect on unit cost.

<sup>36</sup> For these items, measurement is in numbers of units. Between 1965 and 1971, the average power ratings rose for electric irons, electric ranges, hot water heaters, and heater-ventilators; they fell for single-unit hotplates, ventilators, and vacuum cleaners, and stayed about the same for boilers and hotplates with two or more units. Whether the changes observed over this short period of time are representative of longer term trends is unknown. Between 1952 and 1971, the average size of clothes washing machines (in tons per unit) rose, as did that of compressor-type refrigerators (in liters per unit). The average size of clothes dryers (in tons per unit) and absorption refrigerators (in liters per unit) fell. Production of the last two items virtually ceased by 1971.

<sup>37</sup> Details of the differences may be obtained from the author.

In summary, the output are deficient in many respects, one of which is the units of measurement. Fragmentary data for only relatively few products are available for judging whether units of measurement cause bias in the indexes. For those products, largely in metal and electrical products, there seems to be little reason to suspect bias, at least as the result of the units of measurement themselves. Bias arising from changes in the sophistication or precision of products in these branches cannot be judged with confidence on the basis of this data, nor can any conclusion be reached about bias arising from units of measurement in branches where not even fragmentary data exist.

## V. GROWTH BY INDUSTRIAL BRANCHES

### 1. *Yugoslav industrial branches*

The data compiled in Yugoslav statistics and used in computing the official and sample indexes pertain to what the Yugoslav national income accounts term the industry and mining sector. That sector, and the indexes measuring its growth, therefore corresponds to the U.S. industry sector, not to manufacturing. Mining and electric power generation constitute the difference between industry and manufacturing in the U.S. classification. In the Yugoslav industry and mining sector, electric power generation is shown as a separate branch. Mining activities are distributed among the branches of industry which process the ores and other raw materials extracted in mining; coal, iron ore, petroleum, natural gas, nonferrous metal ores, and nonmetallic mineral ores all are reported as part of the output of the industry branches which use them. Besides these, additional differences between the two classifications result from grouping products together in Yugoslav branches which are in different branches in the U.S. system.

### 2. *Branch growth rates*

In the pattern of the rates of growth of individual branches of industry (according to the Yugoslav classification) shown in Table 3, there can be seen two aspects of industrial growth: the effects of the industrialization policy followed, and the importance of older, traditional branches of industry in overall growth. In turn, the effects of several strands of the industrialization policy can be observed: the emphasis placed on growth of energy production, the stress on exploitation of existing natural resources, and the attempt to build up new branches with materials bases in the newly exploited natural resources. For example, petroleum and petroleum products and electric power production are among the leading branches by either index.<sup>38</sup> The petroleum branch includes extraction of crude oil and natural gas, both of which grew very rapidly, reflecting both the policy of rapid development of energy supplies and the objective of exploiting the previously almost untapped reserves of oil and gas. The rapid growth of electric power production also shows the energy policy, as well as Tito's predilection for electrification.<sup>39</sup> In contrast, the coal industry,

<sup>38</sup> Although the sample and official indexes differ in the growth rates recorded for individual branches, there is considerable agreement between them so far as the ranking of the branches is concerned. Spearman rank correlation coefficients of 0.98, 0.95, and 0.94 are obtained for the branch rankings in the three periods shown in Table 3.

<sup>39</sup> See Fitzroy MacLean, *The Heretic* (New York, 1957), p. 61, for Tito's early Leninist views on industrialization.

TABLE 3.—ANNUAL GROWTH RATES,<sup>1</sup> YUGOSLAV INDUSTRIAL BRANCHES

[Percent]

Branch	1952-75		1961-75		1971-75	
	Official index	Sample index <sup>2</sup>	Official index	Sample index <sup>3</sup>	Official index	Sample index <sup>4</sup>
Electric power production.....	12.4	12.5	10.4	10.6	7.6	8.4
Coal and coal products.....	4.0	4.2	1.9	1.9	2.6	2.2
Petroleum and petroleum products.....	15.0	14.0	11.2	10.8	6.0	5.5
Ferrous metallurgy.....	11.0	10.2	7.5	6.6	8.2	6.4
Nonferrous metallurgy.....	8.1	8.2	7.1	7.6	8.7	12.5
Stone, clay, and glass.....	12.0	10.7	9.4	8.8	6.2	7.0
Metal products.....	10.6	11.9	8.1	9.1	9.0	8.7
Electrical products.....	16.3	16.4	12.1	11.6	10.0	8.3
Chemicals.....	16.8	10.4	14.9	8.4	10.9	5.2
Building materials.....	8.2	7.0	7.4	8.6	8.2	7.8
Lumber and wood products.....	8.3	7.1	7.5	4.4	6.3	3.1
Paper and paper products.....	13.0	11.6	10.7	8.1	6.1	4.4
Textiles and textile products.....	8.1	5.7	7.2	4.6	7.2	4.9
Hides and leather products.....	8.2	8.7	6.4	7.8	6.8	7.7
Rubber products.....	11.2	13.1	10.2	12.8	9.0	9.5
Food products.....	10.2	7.7	7.3	6.0	5.4	5.0
Printing and publishing.....	NA	10.1	NA	7.4	NA	4.2
Tobacco products.....	4.0	4.6	5.7	6.0	6.1	6.4

<sup>1</sup> Calculated as annual averages between terminal years by the compound interest formula.

<sup>2</sup> 1961 direct weights index with 1952 product sample.

<sup>3</sup> 1961 direct weights index with 1961 product sample.

<sup>4</sup> 1971 direct weights index with 1971 sample.

Source: SZS, *Industrija 1975* (Statisticki bilten broj 967; Beograd, 1976), p. 10; and data underlying table 1.

which had been relatively well-developed at the beginning of the period and would fall in the set of "traditional" industries, grew very slowly, the energy policy notwithstanding, reflecting the substitution of other fuels in industry.

The electric products branch is an example of the conjuncture of high priority in the development policy and the building up of a new branch. According to the sample index, its growth rate for the 1952-1975 was the highest of all the branches. Beginning with a very small base (in 1952, it accounted for only about 3 percent of social product originating in the industrial sector), it exhibited very high growth rates in the early years. As the branch matured, however, there was a sharp retardation in the measured rate of growth, as can be seen in the growth rates in the later periods, a pattern to be expected in a branch in which there was rapid introduction of new products. The chemicals branch represents another example of development policy emphasis and small initial base, although in this case there is considerable divergence between growth rates according to the official and sample indexes.<sup>40</sup>

Other branches illustrate some of these same points. At first glance, the relatively slow growth of the metal products branch may be surprising. However, as will be seen below, the growth rate for the branch as a whole obscures very rapid growth in some parts of it, parts which were not highly developed at the outset and which were given relatively high priority in the development policy (particularly transpor-

<sup>40</sup> In part, the differences may be due to differences in coverage. Owing to lack of data for weights, the sample index coverage of organic chemicals and plastics is limited. Consequently, these relatively fast growing products, many of which were introduced in the 1960's, may be underweighted in the sample index. On the other hand, however, the Yugoslav weighting system and the treatment of new products in the index may cause overweighting of the new, fast-growing products, underweighting of the slower-growing inorganic chemicals and more traditional products (paints, pigments, soaps, candles, etc.), and consequent overestimation of the growth rate of the chemicals branch. Although the methodological explanations do not explicitly specify how new products are entered in the index, it may be inferred that they are introduced continuously, as they appear in the product mix.

tation equipment and machinery). Similarly, the very rapid growth of the paper products branch may seem surprising. However, one aspect of the development policy was emphasis on exploitation of timber resources and of industries based on wood, and paper appears to fit that category. The wood products branch itself grew rather slowly, but that seems to be the result of its having been relatively highly developed at the beginning, a traditional line of industrial activity in Yugoslavia.<sup>41</sup> Rubber products is another very fast growing branch, and its record is consistent with the industrialization policy emphasis on transportation equipment.

Among the branches which were relatively important in Yugoslav industry in 1952, ferrous and nonferrous metallurgy were consistently given high priority in the development policy. While neither exhibited unusually high growth rates over the period as a whole, both maintained relatively rapid growth. Furthermore, as the data in the table show, the nonferrous branch was one of the few whose pace of growth actually rose in the last few years of the period. This increase was due largely to very rapid increases in production of aluminum, zinc, and ferro-alloys.<sup>42</sup> The building materials branch also exemplifies the emphasis on developing branches with indigenous raw materials bases. Maintaining a fairly steady growth rate while most branches exhibited retardation, the rank of the building materials branch rose steadily through the period. Much of this growth was due to increases in production of wood-based materials, especially plywood, particle board, and the like.

Finally, note should be taken of the performance of those branches which were reasonably well developed at the beginning of the period but which did not receive high priority in the industrialization policy, particularly food products, textiles, and tobacco. Together, these three branches accounted for about one third of the value of social product generated in the industrial sector in 1952, and the textiles branch was, by this measure, the largest single branch. Although the tobacco branch was another in which the general pattern of retardation was not observed (possibly because of favorable weather in recent years), all three of these branches were near the bottom in measured growth. At that, the growth rate for food products almost certainly overstates the growth rate of production of processed food as a whole because of the displacement over the period of food produced in the handicraft or small scale sector by food produced in the industrial sector. It should also be noted that the overall growth rate for textiles hides some important divergences among components of the branch, to be discussed further in the following section.

### *3. Growth Rates for Revised Product Groups*

The Yugoslav branch classification scheme lumps together in certain branches activities which might better be considered separately. Tables 4, 5, and 6 present growth rates calculated for mining and

<sup>41</sup> The discrepancy in growth rates according to the sample and official indexes seems due to much the same set of causes as in the case of chemicals.

<sup>42</sup> Some average annual growth rates for 1971-75 which indicate the growth in these products are: alumina, 23.1 percent; zinc (crude and powder), 26.1 percent; aluminum ingots, 37.9 percent; refined zinc, 15.8 percent; aluminum alloys, 13.4 percent; ferromanganese, 19.3 percent; ferrochrome, 30.7 percent; and extruded aluminum products, 17.3 percent.

industrial activities classified by a scheme intended to bring out some aspects of industrial growth which are obscured in the official classification.<sup>43</sup>

The main purposes for regrouping the data were to separate mining from the industrial branches and to divide metal products into components. The first of these could be done completely; all mining series were separated from the original branches and recombined into a single index, which shows (see Table 4) that mining grew slowly throughout this period. The relatively slow growth of mining was due mostly to the slow growth of coal and nonferrous metal ores, as shown by the data in Table 5. Iron ore was also slightly below the industrial average. On the other hand, mining of nonmetallic minerals (quartz sand and stone, crude fireclay, crude magnesite, crude feldspar, and crude barites form the basis for this index) and especially crude oil and natural gas grew at very rapid rates. The influence of the extent of development of a branch of activity at the beginning of the period is evident; coal mining, nonferrous metals mining, and iron mining all were relatively well-developed in the prewar Yugoslav economy. The policy of exploiting previously untapped petroleum resources, a policy whose implications extend from the rapid growth rate of the extraction of the crude materials through to the rapid growth of the chemical industry, the development of artificial fibers, and the rest of petroleum-related industrial development, is also clearly seen.

Output data from the metal products branch were used to calculate the growth rates shown in Table 4 for transportation equipment, agricultural equipment, and other machinery, tools, and equipment,<sup>44</sup> and part of intermediate producers' goods. Transportation equipment grew fastest of the subgroups from metal products by a substantial margin. The outputs of trucks, buses, railroad vehicles, and even bicycles all grew very rapidly. On the other hand, for the period as a whole agricultural equipment grew considerably less rapidly than transportation equipment and also less rapidly than other types of machinery. Tractors grew faster than the average for this group (at a little more than twelve per cent per year for the twenty years), but agricultural tools and other machinery and equipment grew slower. From these data, it appears that agricultural machinery and equipment output grew only slightly more rapidly than industrial output as a whole. Given the extremely low level of mechanization in agriculture at the beginning of the period,<sup>45</sup> the relatively low rate of

<sup>43</sup> The footnotes to Table 4 give details of the product series which comprise each of its groups. Note that not all of the output series included in the sample indexes previously reported are included in these new groupings. The growth rates shown in Tables 4, 5, and 6 are based on indexes calculated with 1961 unit value weights.

<sup>44</sup> The list of these categories includes some machinery and equipment from the electric products branch, as the footnote to the table states. Transportation equipment does not include passenger automobiles because of the absence of output data in the early part of the period. Production of passenger automobiles grew very rapidly from an extremely small base in 1955; from 1961 to 1971 the average annual growth rate was more than twenty per cent, and remained at just over fourteen per cent from 1971 to 1975. The omission of this series from the transportation equipment group means that the group's growth rate is somewhat understated. However, the omission would have a relatively small impact on the overall rate for that group, and an even less important impact on the industrial production index as a whole, because of the small weight which the series would have in either total. Even by 1975, after the period of very rapid growth, total passenger car production was still only some 140,000 units, of which nearly one third were produced by assembling parts imported from abroad. See Savezni zavod za statistiku, *Industrija 1975*, p. 34.

<sup>45</sup> At the end of 1951, there were 0.45 tractors per thousand hectares of agricultural land and 84 plows per thousand hectares. See Savezni zavod za statistiku, *Statistički godišnjak FNRJ 1957*, p. 163, and *Statistički godišnjak FNRJ 1954*, p. 116. By contrast, in the United States there were about 13 tractors per thousand hectares of farm land in 1969 and about 7 per thousand in 1940. See U.S. Bureau of the Census, "Statistical Abstract of the United States: 1974," pp. 597, 601, 612. In making the estimates for the U.S., it was assumed that the number of tractors per non-reporting farm was the same as the number per reporting farm; this may bias the 1940 estimate upward relative to the 1969 estimate.

TABLE 4.—AVERAGE ANNUAL GROWTH RATES OF REVISED INDUSTRIAL GROUPS<sup>1</sup>

[In percent]

Group	Period		
	1952-75	1961-75	1971-75
Mining <sup>2</sup> .....	5.9	4.1	4.1
Electricity and processed fuels <sup>3</sup> .....	12.9	10.5	6.4
Ferrous metallurgy <sup>4</sup> .....	10.1	6.6	6.8
Nonferrous metallurgy <sup>4</sup> .....	8.8	8.2	13.1
Building materials <sup>5</sup> .....	7.0	6.3	5.0
Transportation equipment <sup>7</sup> .....	16.8	10.6	8.1
Agricultural equipment <sup>8</sup> .....	10.9	9.4	15.3
Intermediate producers' goods <sup>9</sup> .....	11.3	7.9	7.8
Other machinery, tools, and equipment <sup>10</sup> .....	12.5	10.4	10.3
Chemicals <sup>11</sup> .....	9.7	7.8	4.4
Textiles and allied products <sup>12</sup> .....	4.5	2.2	-4.4
Clothing and footwear <sup>13</sup> .....	9.3	9.2	7.9
Food and allied products <sup>14</sup> .....	7.0	5.7	3.8

<sup>1</sup> Calculated between terminal years by the compound interest formula.<sup>2</sup> Includes coal, crude oil and natural gas, iron, nonferrous metals, nonmetallic minerals, and quarrying.<sup>3</sup> Besides electricity, includes fuels derived from coal, petroleum and natural gas.<sup>4</sup> Obtained from the Yugoslav ferrous metallurgy branch by removing ferrous ore mining and adding steel castings from the metal products branch.<sup>5</sup> Obtained from the Yugoslav nonferrous metallurgy branch by removing nonferrous ore mining and adding nonferrous castings from the metal products branch.<sup>7</sup> Obtained by combining the stone, clay, and glass products branch (less mining of nonmetallic minerals) with the building materials branch (less quarrying) and adding fasteners (rivets, screws, and nails) from the metal products branch, a number of products of the lumber and wood products industry (sawn timber, veneer, plywood, solid parquet flooring, and wood impregnation) and roofing felt.<sup>7</sup> The sum of a number of items from the metal products branch (steam locomotives, motor locomotives, freight, and other special coaches, other railroad coaches, tugs, mine cars, and other miscellaneous cars, trucks and light trucks, buses, bodies for trucks and other vehicles, spare parts for motor vehicles, and bicycles) with tires and tubes for motor vehicles and bicycles from rubber products.<sup>8</sup> The sum of agricultural tools, agricultural machinery and equipment, and tractors, all from the metal products branch.<sup>9</sup> The sum of several items from rubber products (pipes, sanitary wares, and rubberized canvas), machine building and metalworking (armatures, steel ropes, barbed wire, chains, fittings and accessories, metal utensils, metal packing materials, electrodes, and roller bearings), 2 from electrical products (cables and insulated conductors), wooden containers and boxes, several items from paper products (newsprint, Kraft paper, wrapping and other packing paper, cigarette paper, other paper, and cardboard), and several from hides and leather (sole leather, other leather for footwear, technical ready-made goods, pigskin for manufacturing, lining leather from kips, and furs).<sup>10</sup> The sum of a number of items from the metal products branch (boilers for central heating, equipment for steamheating, cutting tools, pumps, steam boilers not for central heating, water turbines, steam turbines, building machinery and equipment, metal and woodworking machinery, ventilation and air-conditioning equipment, refrigeration equipment, calances, and clocks) and a number from electrical products (rotating machines—all sizes, accessories for rotating machines, transformers for meters, switchgear, distribution equipment, cinema projectors and capacitors, telephones, telephone exchanges, installation materials, electric light bulbs, lamps, accumulators, and primary cells).<sup>11</sup> Obtained by adding 3 series from lumber and wood products (tanning materials, colophony and turpentine, and matches) to the Yugoslav chemicals branch.<sup>12</sup> Obtained by removing clothing from the Yugoslav textiles branch.<sup>13</sup> Clothing from the textiles branch plus leather footwear from the hides and leather products branch plus rubber footwear from the rubber products branch.<sup>14</sup> Food products branch plus tobacco products branch.

Source: Calculated from data underlying col. 4 of table 1.

TABLE 5.—AVERAGE ANNUAL GROWTH RATES:<sup>1</sup> SELECTED MINING BRANCHES

[In percent]

Branch	Period		
	1952-75	1961-75	1971-75
Coal mining.....	3.6	1.8	2.7
Crude oil and natural gas.....	15.7	8.8	7.8
Iron ore.....	8.8	6.6	8.2
Nonferrous metals.....	4.8	4.0	3.5
Nonmetallic minerals.....	9.3	4.8	2.8

<sup>1</sup> Calculated between terminal years by the compound interest formula.

Source: Calculated from data underlying table 4.

growth of agricultural machinery and equipment indicates a correspondingly low priority for agricultural mechanization. Whether the faster growth in the most recent period means a reversal of this policy is unknown.

Removal of mining from the basic metals branches shows that output of processed ferrous and nonferrous products grew faster than would be indicated by the growth rates of the branches according to Yugoslav definitions. The difference in ferrous metallurgy, however, was small because the growth rate for mining was only a bit lower than for the branch as a whole, and because the weight of mining was relatively small in the branch. The impact on nonferrous metallurgy is considerably greater, and for opposite reasons: nonferrous ore mining grew more slowly than the nonferrous metals branch, and mining was a relatively important part of the branch.<sup>46</sup>

Some additional details are worth noting briefly. The growth rate of the revised chemicals branch is marginally below that of the original branch, apparently as a result of the inclusion of certain chemical products classified elsewhere in the Yugoslav scheme. The removal of clothing from the textiles branch reduces the measured rate of growth of the branch, especially in recent years, indicating that clothing output in industry grew faster than the average for the branch as a whole. Comparison of the growth rate for the original textile branch with those for the revised textiles and allied products group and the clothing and footwear group suggests that clothing was a relatively small part of the original textile branch at the beginning of the period. In turn, part of the reason why the base for clothing in the industrial sector (i.e., in the textiles branch of industry) was small in 1952 was that a substantial fraction of the clothing output was produced not in the industrial sector, but in the handicraft sector. In some lines of production, particularly consumer goods (the case of food products was noted above), handicraft sector production was a substantial part of total output in 1952; during the succeeding twenty years, handicraft production stagnated or declined, so that the growth of industrial sector output of the products involved was, in a sense, only a transfer of production from one sector to another. The rate of growth of the revised clothing and footwear branch is relatively high, partly for the reason just mentioned and partly because of the rapid growth of the rubber footwear. Finally, the inclusion of tobacco products in the food and allied products branch reduces the measured rate of growth in comparison with the original food products branch.

There remains the question of the impact on growth rates of removing the activities which would be considered nonmanufacturing in the U.S. classification. In brief, if mining and electric power production are removed from the index, what is its growth rate? The growth rate for the index entitled All Industrial Products shown in the revised product groups only, so it is not fully comparable with

<sup>46</sup> Because of lack of data for 1961 unit values, copper ore mining, whose output grew at an annual average rate of about 11.5%, could not be included. Its exclusion could, of course, cause understatement of the growth rate of the branch. However, this understatement is offset by the exclusion, for similar reasons, of chrome ore mining, whose output shrank to almost nothing (an average annual decline of 16.5%).

Table 6. was calculated from an index for those products included in the growth rates for industry as a whole that are reported in Table 1. Nevertheless, the effects of the removal of nonmanufacturing activities can be seen here. While mining grew more slowly than industry as a whole, electric power production grew faster; the net effect of their removal is to increase the growth rate for those products which would be considered manufacturing products in the United States, in comparison with the growth rate for all of the products included in the Yugoslav index.

TABLE 6.—AVERAGE ANNUAL GROWTH RATES:<sup>1</sup> INDUSTRY AND MANUFACTURING

Sector	Period		
	1952-75	1961-75	1971-75
All industrial products.....	8.6	7.1	6.4
Mining.....	5.9	4.1	4.1
Electric power production.....	12.5	10.6	8.4
Manufacturing <sup>2</sup> .....	8.8	7.2	6.5

<sup>1</sup> Calculated between terminal years by the compound interest formula.

<sup>2</sup> All industrial products less mining and electric power production. This grouping is intended to stimulate the U.S. manufacturing sector, but is not identically defined or fully comparable to it.

Source: Calculated from data underlying table 4.

## VI. RETARDATION OF INDUSTRIAL GROWTH

The growth rates for the subperiods shown in Tables 2, 3, and 4 all point to steady and uniform retardation in the rate of growth of industrial production. The pattern can be seen graphically in Figure 1. The first signs of hesitation in the rate of industrial production can be seen around 1961-62, immediately after the inauguration of the Five Year Plan for 1961-65 and the first of the reforms in the economic system. These difficulties apparently were partly responsible for the decision to abandon the Plan and begin work on a Seven Year Plan, intended to span 1964-71, meanwhile resorting to a series of annual plans. Growth revived briefly after 1962, but again slowed in 1965 and 1966, concurrent with the major reforms of those years. An actual decline in production in 1967 was followed by a period of steady growth, but at a lower pace, which lasted through the end of the period studied here.<sup>47</sup>

This pattern is reflected in average annual growth rates for intervals in the period (see Table 7). By either the official or the sample index, the rate of growth in recent years is substantially less than that recorded up to the end of the First Five Year Plan (of the self-management period) in 1961. Growth over the latter period appears to be relatively steady and little pattern can be observed in the annual relatives for the years involved.

<sup>47</sup> The breaks in the pattern of growth which occurred in connection with the reforms were accompanied by substantial changes in the composition of output (see J. H. Moore, "An Index of Structural Change in Output," unpublished ms., Thomas Jefferson Center Foundation, Charlottesville, Virginia, 1977). Because the reforms were accompanied by extensive reforms of prices which had long been controlled, it is possible that the reductions in growth rates resulted from the restructuring of output following on changes in relative prices.

Figure 1

# INDUSTRIAL PRODUCTION INDEX NUMBERS

All Industrial Products  
(1952 = 100)

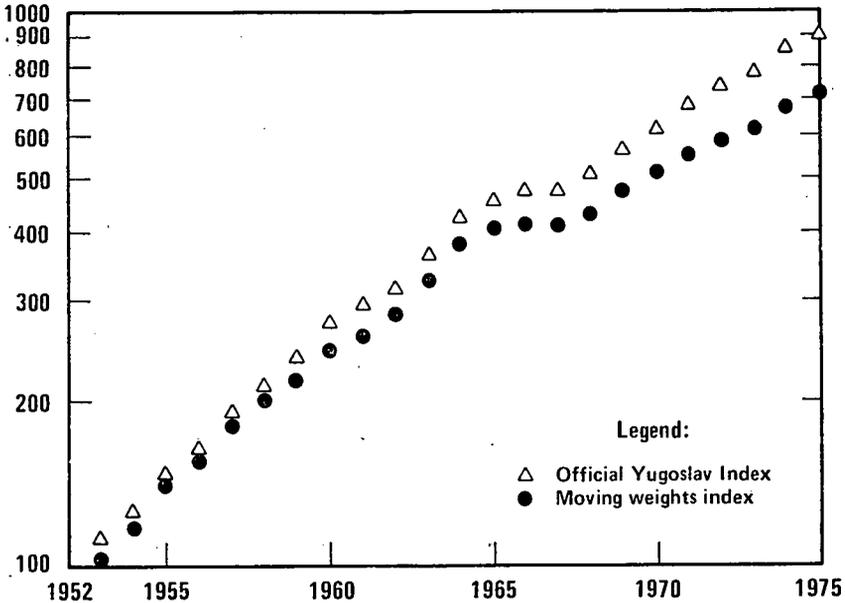


TABLE 7.—AVERAGE ANNUAL GROWTH RATES<sup>1</sup> OF YUGOSLAV INDUSTRIAL OUTPUT (SELECTED PERIODS)  
[In percent]

Index	Period		
	1952-61	1962-66	1967-75
Official Yugoslav index.....	12.7	10.9	8.4
Moving weights index.....	11.2	10.1	7.0

<sup>1</sup> Calculated between terminal years by the compound interest formula.

Source: Table 1.

## VII. COMPARISONS WITH OTHER COUNTRIES

The data presented in Table 8 provide a comparison with some noncommunist countries which reported output in time periods which could be compared to the first twenty years in Yugoslavia and whose indexes are methodologically similar to the sample index.<sup>48</sup> According to these figures, only the Republic of Korea and Japan had

<sup>48</sup> Because of differences in weight bases and coverages, as well as remaining methodological differences the growth rates in the table are not fully comparable. All of the countries included in Table 1 report an arithmetic index using some form of value added weights, and coverage is approximately the same as that of Yugoslavia. The footnotes to the table specify the most important differences in coverage and weight bases.

higher growth rates than Yugoslavia; Israel, Mexico, and Venezuela were in the same general range. Of course, the sample of growth rates in the table is highly restricted, and, if comparable data were available for other countries, Yugoslavia's position would probably be further down the list. For example, Egypt, Nicaragua, Panama, Ecuador, the Syrian Arab Republic, and Turkey all reported manufacturing indexes showing higher rates of growth over this period than did Yugoslavia, but the coverages of the indexes or the time periods for which data were reported were so different that including the growth rates in Table 8 would have been misleading.<sup>49</sup>

In interpreting the data in Table 13, it must be remembered that there were wide variations in the 1952 levels of development of the countries shown. As is well known, there is no fully acceptable method for making international comparisons of the level of output. As a very rough indication, we take per capita production of electric power in 1952; this indicator is subject to many obvious qualifications,<sup>50</sup> but it seems acceptable for the purpose of establishing orders of magnitude. Per capita electric power production in Yugoslavia was about 161 thousand kilowatt hours in 1952, a production level on the same order as those of Mexico (198), Venezuela (136), and Panama (110), countries which also had growth rates approximately that of Yugoslavia. Yugoslav per capita electric power production was somewhat smaller than that in Japan (604), which had a higher growth rate, and in Israel (416), which had a slightly smaller growth rate. On the other hand, measured by per capita electric power production, Yugoslavia in 1952 was more developed than the Republic of Korea (31 th. kwh/person), the Philippines (47), and India (22), and recorded a lower rate of output growth than the first and higher growth rate than the second and third.<sup>51</sup> If initial stage of development and subsequent rates of growth of manufacturing output generally are negatively correlated,<sup>52</sup> and if per capita electric power production can be taken to measure stage of development, the Yugoslav record appears to be unexceptional by the standards of the noncommunist countries in the postwar period.

Comparison with other European communist countries and the Soviet Union is more difficult because the indexes reported by all of them employ methodologies significantly different from both the official Yugoslav and sample indexes. With the exception of Hungary,

<sup>49</sup> The growth rates and time periods covered were as follows: Egypt, 13.6% for 1953-69; Nicaragua, 10.3% for 1953-71; Panama, 10.2% for 1953-71; Ecuador, 10.9% for 1953-71; Syria, 10.0% for 1953-71; and Turkey, 11.1% for 1953-66. The coverages of the Nicaraguan and Panamanian indexes were substantially different from those in Table 1. The time periods covered by the other four appeared too different from those in the table to warrant their inclusion.

<sup>50</sup> An ordering of countries by this indicator produces some anomalies; e.g., in 1952 Canada ranks considerably ahead of the United States (4581 th. kwh/person vs. 2943), a result probably due to much higher use of other sources of energy in the U.S. (in fact, per capita consumption of energy in all forms in the two countries was just about the same in 1952). At the same time, the rankings that emerge are plausible; in Western Europe, the rank order was West Germany, Austria, Belgium/Netherlands (combined in the source), France, the Netherlands, Italy, and Denmark. The per capita figures ranged from 621 th. kwh/person to 1171. Electric power production data for all countries were obtained from United Nations, "World Energy Supplies, 1951-1954" (Statistical Papers, Series J, No. 2; New York, 1957), pp. 124-35. Population data for these countries were obtained from U.S. Bureau of the Census, "Statistical Abstract of the United States: 1954" (Seventy-fifth edition; Washington, 1954), pp. 13, 955.

<sup>51</sup> Population data for Yugoslavia were obtained from SZS, *Statistički godišnjak SFRJ 1973* (Beograd, 1973), p. 82.

<sup>52</sup> There is some evidence that this is the case. Taking the logarithm of per capita electric power production as the indicator of initial stage of development, simple regression of the growth rates in Table 1 and those reported in the text on that indicator yielded a coefficient of  $-1.06$  with a standard error of 0.47, significant at the 95% level. If India and Japan, the two outliers, are removed, the coefficient is  $-1.62$  and the standard error is 0.37, again significant at the 95% level. It is interesting that Japan apparently achieved a growth rate greater than its 1952 per capita electric power production would suggest; the opposite was true of India.

all of the official indexes employ gross value weights, a practice which causes well-known distortions in the indexes.<sup>53</sup> The impact of distortions in the indexes of the European bloc countries would require detailed study of the industrial structure in each, a task beyond the scope of this work. Generally, if fast growing products are also those in which there is relatively extensive double-counting of output, or if there is a general tendency to vertical disintegration of industry over a given period of time, a gross weighted index will rise faster than the appropriate net weighted index. While the quantitative magnitudes of the biases are not known with precision, there is a general belief that these indexes are biased upward.

TABLE 8.—Growth rates of manufacturing output, selected countries—1953-71 (in percent <sup>1</sup>)

Country	Average annual growth rate	Country	Average annual growth rate
Republic of Korea.....	<sup>2</sup> 15.7	Federal Republic of Germany..	<sup>10</sup> 7.1
Japan.....	<sup>3</sup> 13.8	Austria.....	<sup>11</sup> 7.1
Yugoslavia.....	<sup>4</sup> 9.8	Netherlands.....	<sup>12</sup> 6.7
Israel.....	<sup>5</sup> 9.6	France.....	<sup>13</sup> 6.6
Mexico.....	<sup>6</sup> 9.0	India.....	<sup>14</sup> 6.2
Venezuela.....	<sup>7</sup> 8.2	Denmark.....	<sup>15</sup> 5.5
Philippines.....	<sup>8</sup> 7.2	Canada.....	<sup>16</sup> 4.9
Italy.....	<sup>9</sup> 7.1	Luxembourg.....	<sup>17</sup> 3.5
		United States.....	<sup>18</sup> 3.5

<sup>1</sup> Calculated between terminal years by the compound interest formula. Weights for all indexes are based on value added.

<sup>2</sup> 1970 weights.

<sup>3</sup> Excludes printing and publishing. 1970 weights.

<sup>4</sup> Index calculated by deducting mining and electric power production from industry and mining in our direct weights (1961 base) index.

<sup>5</sup> Excludes repair of clocks and watches. 1968 weights.

<sup>6</sup> Excludes nonferrous basic metals and furniture. 1950 weights.

<sup>7</sup> Excludes leather footwear, basic metals, and machinery. 1957 weights.

<sup>8</sup> Excludes basic metals. 1965 weights.

<sup>9</sup> Excludes printing and publishing, repair shops, and some miscellaneous categories. 1963 weights, adjusted to 1965 base.

<sup>10</sup> 1958 weights.

<sup>11</sup> Excludes sawmills, printing and publishing, and coal products. Includes stone quarrying, clay, and sand pits. 1964 weights.

<sup>12</sup> 1963 weights.

<sup>13</sup> Excludes clothing and wood products. 1962 weights.

<sup>14</sup> 1970 weights.

<sup>15</sup> Excludes sugar factories and refineries. 1955 weights.

<sup>16</sup> 1949 weights.

<sup>17</sup> Excludes paper and paper products. 1970 weights.

<sup>18</sup> 1967 weights.

Sources. Yugoslavia: Data underlying table 1. The growth rate is that calculated for the manufacturing sector using direct weights. All others: Statistical Office of the United Nations, *Statistical Yearbook: 1972* (New York, 1973), pp. 154-67, and 1972 Supplement to the *Statistical Yearbook* and the *Monthly Bulletin of Statistics* (New York, 1974), pp. 69-102.

The Hungarian industrial production index weights products by the sum of wages and depreciation, which would approximate the appropriate measure, value, added if wages and depreciation were calculated properly. Because of the absence of a capital market in Hungary, and because the labor market works imperfectly, the weights used probably differ from "true" value added weights. Nevertheless, the Hungarian index should be less susceptible to the upward biases of the gross weighted indexes.

<sup>53</sup> For an excellent discussion of these distortions in connection with the official Soviet index, see Rush V. Greenslade, "Industrial Production in the USSR," in Vladimir G. Tremli and John P. Hardt, eds., "Soviet Economics Statistics" (Durham, N. Car. 1972), esp. pp. 174-9.

The differences in weighting systems are further complicated by differences in the base years adopted by the different countries and by differences in the coverages of the indexes; these disparities are summarized briefly in the footnotes to Table 9. These inconsistencies along with the fundamental differences in weighting systems render quantitative comparisons impossible, but the data in the table provide a qualitative indication of Yugoslav growth in comparison with the bloc countries and the Soviet Union.

TABLE 9.—MANUFACTURING GROWTH RATES AND ELECTRIC POWER PRODUCTION IN SOVIET BLOC COUNTRIES AND YUGOSLAVIA

Country	Average annual growth rate, 1953-71 <sup>1</sup> (percent)	1952 per capita electricity production (kilowatt-hour per person)
Bulgaria.....	12.6	189.4
Romania (1953-70).....	12.1	177.9
Poland.....	9.4	479.6
Czechoslovakia.....	8.1	948.1
East Germany (1958-70).....	7.6	1,261.7
Hungary.....	7.6	444.0
U.S.S.R.:		
Official index.....	9.8	593.0
U.S. estimated index.....	8.0	
Yugoslavia.....	9.8	160.7

<sup>1</sup> Calculated between terminal years by the compound interest formula.

<sup>2</sup> Gross output weights, 1954 base for 1960 and earlier; 1962 base for 1961 and later.

<sup>3</sup> Excludes publishing; includes fishing and logging. Gross output weights, 1955 base for years to 1965; 1963 base for 1965 and later.

<sup>4</sup> Includes fishing and repair services. Gross output weights, 1956 base for 1956-60, 1960 base for 1961-70, and 1971 base for 1971.

<sup>5</sup> Excludes publishing. Gross output weights, 1954 base through 1960, 1960 base for 1961-67, and 1967 base for 1968 and later.

<sup>6</sup> Excludes publishing; includes fishing. Gross output weights, 1955 base for 1955-67; 1967 base for 1968 and later.

<sup>7</sup> Weights are sum of wages and depreciation, 1954 base for 1949-57, 1958 base for 1958-61, 1962 base for 1962-67, and 1966 base for 1968-71.

<sup>8</sup> Excludes publishing; includes logging, fishing, maintenance, and repair of passenger cars and household machines and appliances, repair of footwear and knitted goods, film processing, dry cleaning and dyeing, and secondary processing of nonferrous metals. Gross output weights, 1963 base.

<sup>9</sup> The growth rate is calculated from the Central Intelligence Agency index for civilian industrial production, whose coverage approximates that of our indexes for Yugoslavia. The CIA index weights individual products by July 1, 1967 or later prices and aggregates industry branches by 1968 value added weights. See Rush V. Greenslade and Wade E. Robertson, "Industrial Production in the U.S.S.R.," in Joint Economic Committee, Soviet Economic Prospects for the Seventies (Washington, 1973), pp. 271, 280.

<sup>10</sup> Index calculated by deducting mining and electric power production from industry and mining in our direct weights (1961 base) index.

Sources: Growth rates: Same as table 13, except for U.S. estimate of U.S.S.R. See footnote 9 to this table.

When the differences in weights and the stage of development at the beginning of the period (indicated by per capita electricity production) are taken into account, Yugoslav growth measured in the table by the growth of our net weighted index (specifically, the 1961 direct weights index), once again appears to fit into the general pattern, no more and no less. By our crude measure of initial level of development, Bulgaria and Romania started at about the same level as Yugoslavia; their measured growth rates are greater, but are probably biased upward because of their gross weights. Poland and the Soviet Union, both measuring output growth by gross weighted indexes, showed about the same numerical values for growth rate of output as did Yugoslavia. But, again, because of the likely upward bias in their indexes, this apparent equality probably would not hold up if their growth rates were measured on a comparable basis. The U.S. index for the Soviet Union, methodologically more comparable,

seems roughly consistent with this view. According to our measure of initial development level, Czechoslovakia and East Germany were further advanced in 1952 than Yugoslavia, and, when account is taken for the likely bias in their indexes, their growth rates relative to Yugoslavia's again seem to fit the pattern. Hungary's growth rate, based on an index with net weights, is more nearly comparable to Yugoslavia's, and is consistent with its initial stage of development relative to Yugoslavia's.

#### APPENDIX. SOURCES OF DATA FOR SAMPLE INDEXES

Physical output data were compiled from the Savezni zavod za statistiku series *Industrija*, published annually since 1956. The first issue in this series included data for 1939 and postwar years through 1956. After that time, the bulletins give data for each of the most recent three years. In compiling the data, the latest available recorded values for any given year were taken as representing the most up-to-date revisions of the output in each product series. In a few cases, missing data points were estimated by various techniques, usually simple regression of the logarithms of surrounding values on a time variable.

Data concerning industrial prices were taken from the SZS series *CENE* for 1957 (price data for the 1952 weights) and 1962 (for the 1961 weights). Unit values were calculated with data compiled from the SZS series *Industrijski proizvodi* for 1970 (for the 1961 weights) and 1971 (for the 1971 weights). Turnover tax rates were compiled from statutes published in *Službeni list*, the official gazette of the Yugoslav legislature. The data used to adjust costs net of turnover tax were taken from the SZS series *Industrijska preduzeća* for 1969 and 1971. Details about the output data, estimation procedures, and computation of weights are available from the author on request.

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# EASTERN EUROPE—THE POLITICAL CONTEXT: THE SOVIET-EAST EUROPEAN ALLIANCE SYSTEM

BY VLADIMIR SOCOR

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## EASTERN EUROPE AND THE BALANCE OF POWER

Eastern Europe, the region where both World Wars and the Cold War originated, occupies a critical position in the European and world balance of power. The course of international politics since the second world war tends to confer added validity to the axiom, whose best known expression was given by Halford Mackinder, projecting imperial control over Eastern Europe as the first and indispensable (although not in itself sufficient) precondition for the attainment of world hegemony: "Who rules Eastern Europe commands the Heartland; who rules the Heartland commands the World-Island; who rules the World-Island commands the World."<sup>1</sup> The establishment and perpetuation of Soviet control over Eastern Europe since the end of World War II has brought about a shift of unequal magnitude in the East-West balance of power to the advantage of the Soviet Union.

The West's most basic foreign and defense policies have since had to be organized with reference to this cardinal strategic fact which holds potentially vital implications for the West's security. The Soviet power monopoly in Eastern Europe has so decisively increased the Soviet preponderance of strength on the continent, and brought the Soviet forces and the Communist system into such ominous proximity to the population and production centers and outer communication lines of Western Europe, as to necessitate the introduction of American power and the establishment of American commitments for the purpose of checking the further westward and southward extension of Soviet power or influence. The presence of Soviet power in key areas of East-

<sup>1</sup> Sir Halford J. Mackinder: "Democratic Ideas and Reality," New York: Holt, Rinehart and Winston, 1942 (2nd ed.), p. 150.

ern Europe, with the resultant pressure upon the security of Western Europe, has made a compensatory U.S. presence in the latter region indispensable.

### *The Locational Factor*

Indeed, from the standpoint of world politics, the prize held by Eastern Europe for the great power which controls it is measured to an important extent in terms of geostrategic location. In this respect the assessment of the strategic value of Eastern Europe to the Soviet Union has evolved along with the over-all assessment of the Soviet power position and intentions in relation to the West. While during World War II and the immediate post-war period the region's strategic function was viewed mainly as defensive, as a Soviet protective buffer against invasions coming from the West, subsequent Soviet policies have increasingly brought to the fore the region's correlative offensive function, as a springboard for further Soviet physical or political advancement or encroachments in Europe. This latter perception has been reinforced by the Soviet pressures and intimidation strategy vis-a-vis Western Europe during much of the Cold War period, and more recently by the offensive buildup of Soviet and Warsaw Pact forces in Eastern Europe over the last few years. While in the present world political and power configuration an outright Soviet and Warsaw Pact attack in Western Europe is unlikely, there remains the distinct probability that this military buildup is intended as a persuasive backdrop for Soviet diplomatic, economic and political policies aimed at fragmenting the power alignments and inducing gradual change in the political structure of Western Europe. A crucial factor enhancing the effectiveness of Soviet strategies and policies toward Western Europe, and necessarily affecting the West European response thereto, is the Soviet geostrategic proximity to Western Europe resulting from the Soviet control of Eastern Europe.

Moreover, the fact of Soviet military proximity to Western Europe has—as illustrated by contemporary historical experience—recurrently had the effect, especially in the context of crises of strategic dimensions, of increasing the effectiveness of Soviet pressures in given crisis theaters and of strengthening the Soviet negotiating posture vis-a-vis the West. This situation also contains a demonstrated potential for undermining Western solidarity and generating intra-coalition pressures in favor of accommodating Soviet demands or interests in other geographic or political areas, particularly those in which the West Europeans do not perceive their own vital interests to be at stake.

From the tactical military aspect—whose importance for military planning increases significantly in the context of superpower strategic parity—Eastern Europe contains a number of positions and areas which have time and again figured prominently in international power politics and diplomacy and in this century's (as well as past) military campaigns: the North German and the Pomeranian and Masurian plains, the Pripet Marshes, the Bohemian Quadrilateral, the Moravian Gate, the Baltic Sea approaches to Scandinavia, Jutland and the communications with the North Sea, the Carpathian chain and passes, the Galati-Focshani Gap, the Lower Danube, the Balkan

mountain range, the land and sea approaches to Constantinople and the Straits, the Vardar-Morava Corridor, the Ljubljana-Trieste Gap and the Istro-Dalmation coast.

The holder of these positions and areas, almost all of which are today under direct or indirect Soviet control, is assured not only of a very strong defensive posture, but also of a greatly enhanced ability to swiftly and efficiently mount offensive operations against other states, or to neutralize them by politico-diplomatic means, elicit from them concessions or compliant behavior, and influence their domestic politics, under the actual or implied threat of mounting such operations. Soviet sensitivity to the politico-military potentialities inherent in control over such areas and positions has in recent years been attested to by the occupation of Czechoslovakia, the disposition of Soviet and Warsaw Pact forces in the Pact's Northern sector—the "Central European front"—the locations of Warsaw Pact joint maneuvers in Eastern Europe, and the ongoing Soviet efforts to establish a naval presence on Yugoslavia's Adriatic coast.

### *The Economic Factor*

The economic potential of Eastern Europe and its contribution to the over-all power position of the Soviet bloc is another key element in the assessment of the East-West power balance. The region's very considerable natural resources, industrial production, manpower reservoir and transportation capacities represent significant additions to those Soviet economic wherewithals that are applied toward generating and expanding Soviet and Warsaw Pact aggregate strength. The command economies of the East European states, with their high rates of reinvestment and industrial growth concentrated in the metallurgical, machine building and mineral extractive and processing sectors, and characterized by an output mix markedly weighted toward industrial as against agricultural and services production and toward heavy industrial as against light and consumer goods industrial production, constitute a sizeable increment to the economic components in the sum of power represented by the Soviet bloc. This continuing process of accretion is made possible by the priority allocation of resources to those sectors of the economy which are most apt to sustain and augment the instruments of power, in their spectrum ranging from the narrowly military through general defense support to industrial and scientific-technological development, and including foreign aid programs, integrated with the bloc's international political strategies.

This pattern of proprietary orientation of economic resources toward power-related utilizations, promoted to the detriment of the East European populations' living standards, is ensured by virtue of the decision-making monopoly with respect to resource allocation arrogated by the Communist Party leaderships. The Communist system of political controls and repression perpetuates this monopoly and precludes an organized and effective assertion of alternative economic programs oriented more toward decentralization of the command economic system, the betterment of the standards of living and a more adequate satisfaction of the consumer expectations and socio-economic aspirations of the region's populations. Economic

reform (as envisaged for example by the Czechoslovak reformers in 1968) in the direction of decentralization, reordering of investment priorities and diversion of resources toward the economic branches related to the production of consumer goods and services, would directly affect the nexus between the economic capacity and the military and international political power instruments of the Warsaw Pact states. Given the intimate connection between economic power and military and international political power, intensified pressures "from below" for economic reform in the East European polities (as well as in the Soviet Union) hold potential implications apt to reverberate in the realm of international power politics and seriously affect the position of the Warsaw Pact therein.

The degree to which the economies of the states of Eastern Europe, their natural resource bases, industrial production and planning are coordinated or integrated with those of the Soviet Union and contribute to the enhancement of its and the Warsaw Pact's over-all power position, as well as the quantum of military expenditures by the East European states, will be assessed in the pertinent chapters of this volume.

### *The Military Factor*

Eastern Europe and its armed forces<sup>2</sup> represent a quantity of eminent significance in the East-West conventional military balance in Europe. The armed forces of the East European member states of the Warsaw Pact—German Democratic Republic (GDR), Poland, Czechoslovakia, Hungary, Rumania and Bulgaria—total 1,298,000 men under arms, 12,750 tanks, and 2,400 combat aircraft. The bulk of these capabilities are concentrated in the critical Central European region, where the armed forces of the relevant Warsaw Pact states comprise 906,000 men, 8,000 tanks, and 1,700 combat aircraft.

While these substantial figures are in themselves sufficiently edifying, their significance can better be put in perspective by comparing the aggregate military capabilities (in manpower, tanks and aircraft) of the East European members of the Warsaw Pact, (a) with the corresponding Soviet theater capabilities, thus illustrating Eastern Europe's contribution to over-all Soviet bloc conventional capabilities in Europe, and (b) with the corresponding theater forces of the West European members of NATO, thus measuring against each other their respective theater warfare capabilities.

The first of these comparisons, involving the size of the East European conventional theater forces as against the Soviet Union's own (the latter consisting of the Soviet forces stationed in the states of Eastern Europe and in the Western military regions of the Soviet Union abutting on its Western borders) shows the great augmentative contribution made by Eastern Europe to Soviet theater forces. The armed forces of the East European states, in the aggregate, add their 1,298,000 soldiers to the Soviet Union's 775,000 (an increase of 167%); almost doubling the number of Soviet tanks, by adding 12,750 to the 13,750 Soviet tanks; and markedly increasing the number of

<sup>2</sup> Figures in this section are compiled from International Institute for Strategic Studies (London): "The Military Balance 1976-1977," London 1976, pp. 99-104. The count of tanks and aircraft refers throughout to main battle tanks in operational service and tactical combat aircraft in operational service. No attempt is made here at a speculative assessment of such unquantifiable elements in the calculus of military power as command quality, troop reliability and morale and the like, although the importance of these unquantifiable elements is obvious.

Soviet aircraft, by adding 2,400 to the 2,900 Soviet aircraft (an increase of 83%). It is true, however, that the share of Eastern Europe in over-all Soviet bloc theater forces would diminish in the event of actual conflict in Europe, when large Soviet forces would undoubtedly be brought in from the Soviet interior military regions, and the resupply capacity of the Soviet military industry—on which the East Europeans are largely dependent for their hardware—would probably be preempted by the Soviet Union's own forces.

The second of these comparisons involves, on an East European versus West European basis, the East European conventional forces on the decisive Central European front measured against those of the West European members of the NATO alliance (including Britain and France) stationed in the same area—the area with which the M(B)FR negotiations are concerned. This finds the East European forces inferior in manpower: 588,000 vs. 767,000 (a 31% margin), but greatly superior quantitatively both in tanks: 7,800 vs. 4,225 (an 84% margin), and in aircraft: 1,700 vs. 1,010 (a 69% margin). With respect to artillery, the available figures refer to Warsaw Pact and NATO totals in the Northern and Central European sector and show the Warsaw Pact with 5,600 artillery pieces vs. 2,700 for NATO (a ratio of over 2:1). While this superiority of materiel may be offset in the event of conventional conflict in Europe by the additional Western forces apt to be brought to the Central front, in peacetime the massive East European forces stationed in their sector serve to supplement the Soviet forces present in this critical area and compound the pressures exerted upon the security of Western Europe, a situation with potential implications of political rather than military order. The military value of the East European forces on the Central front in relation to their West European opposites would undoubtedly be magnified, as would be their political value, in the event of U.S. force reductions in Europe.

#### *The Political Factor*

The power system of which Eastern Europe represents so important a part is affected by inherent weaknesses and potential vulnerabilities of a political nature. True, the Communist alliance system is cemented by the commonly shared ideology motivating the ruling Communist groups—an aspect of determinative importance from the standpoint of alliance cohesion at the political leadership level. However, the effectiveness of the Soviet and the Communist regimes' efforts to harness Eastern Europe's populations and gear the region's societies to the goals and purposes of the Communist system and Soviet international objectives is open to serious question. A full generation after their installation in power, the East European Communist regimes are faced with persistent failure in their endeavors to elicit popular allegiance and establish legitimacy for their rule, and symptoms of latent political instability have surfaced anew in most of the region's states in recent years. A compounding fact, recorded by many observers, is that the populations of Eastern Europe remain the most pro-Western in the world outside the West itself, and that the U.S. commands here sympathies and prestige to an extent not in evidence elsewhere.

This situation can not but have adverse consequences on the political cohesion of the Communist alliance and, potentially, on the

reliability of its political rear and on the security of the Soviet forward base areas and lines of communication with the Central European front, and ought to be taken into account in the calculation of the East-West over-all relationship of forces at any time. Moreover, in the contingency of new international tensions arising in or over Western Europe (be it over its Central, Southern or Northern areas), the potentialities inherent in the situation of latent political instability prevailing in Eastern Europe may come to command increasing attention, and eventually call for a resort to political instrumentalities of competition to partially compensate for the disequilibrium in the military equation: such instrumentalities in the form of political, diplomatic and related politics may then have to be called upon to play an increasing role in the growing East-West imbalance of power in Europe is to be redressed by other than military means.

From the geostrategic, economic, military and political standpoints, then, Eastern Europe is of great significance to the free world. It is a region of utmost importance to the security and freedom of Western Europe, and consequently to the security of the U.S. as well.

## THE WARSAW PACT

### *Introductory Observations*

The Treaty of Friendship, Cooperation and Mutual Assistance known as the Warsaw Pact was concluded on May 14, 1955 as a multilateral alliance treaty between the Soviet Union, East Germany, Poland, Czechoslovakia, Hungary, Romania, Bulgaria and Albania. Pursuant to the Pact's provisions, the Warsaw Treaty Organization (WTO) was established in the same year by the Pact's signatory states. (Albania withdrew from the Warsaw Pact and WTO de facto in 1961 and formally in 1968; Soviet reprisals were precluded by Albania's geopolitical position). The Warsaw Pact is due to expire in 1985, unless an all-European collective security system (for which "the contracting parties will unswervingly strive") is established, in which case the Warsaw Pact will expire from the moment the all-European security treaty enters into force (Art. 11). Failing this, the Warsaw Pact and the arrangements governing WTO will probably be renewed before their 1985 expiration date.

The applicability of the provisions of the Warsaw Pact is explicitly limited geographically to the European theater (Art. 4). However, as shall be seen below, the bilateral alliance treaties and military cooperation arrangements between the Soviet Union and individual East European states do not necessarily operate under this territorial restriction.

The signatory states of the Warsaw Pact are precluded from entering into other alliances (Art. 7). This constitutes a clear limitation to the independence of the East European states and an expression of the concept that they belong inseparably and exclusively to the Soviet alliance system, to which Soviet authority has not until now allowed any alternative.

The relationship of the East European states to the Soviet Union can not be defined in terms of an alliance or mutual security arrangement, or described as a coalition of states in the conventional sense.

of the term. This is not only because its members are so greatly overshadowed by the hegemonic power position of the USSR, and are dependent on it in all military areas (from strategic deterrence to air defense to virtually the full range of armaments) as well as for political support and guidance. In addition to these characteristic imbalances, what makes the Warsaw Pact historically unique as an alliance system is the fact that it is a grouping of ideologically kindred ruling parties as well as states, united by a mutually shared world outlook, intent upon defending, conserving and propagating a common concept of socio-economic organization and political rule, and committed to a set of ideological imperatives universalist in their nature.

The primary role of the Warsaw Pact system in its over two decades of existence has in practice been not to defend the national territories and independence of its members against external aggression, but to ultimately guarantee the East European Communist regimes against internal opposition. So far the only military operations undertaken by and/or in the name of the Warsaw Pact—principally by the Soviet Union—have been in the nature of intra-bloc police actions: the interventions in two member states, Hungary and Czechoslovakia, with the object of preserving the Communist Parties' monopoly of power.

#### *Political Functions of the Warsaw Pact*

It is no exaggeration to say that the military functions of the Warsaw Pact are far outweighed in importance by its political functions. Consequently, an examination of the Pact's significance should begin with the political rather than the military role played by it.

The Pact's political functions are of two orders: internal (intra-bloc) and external (international).

From the standpoint of intra-bloc relations, the Warsaw Pact constitutes a mechanism for strengthening political cohesion within the bloc and enforcing Soviet control over its members. It has also performed the role of a conflict-containing and conflict-resolving organism serving to maintain and legitimize the position of the Soviet Union as the supreme arbiter of Soviet bloc affairs. The Pact also represents a form of reinsurance both for Moscow, against possible independent-minded policies by national Communist leaderships, and for these leaderships themselves, against popular opposition to their rule. The Pact thus constitutes an instrument for the perpetuation of Soviet control over Eastern Europe through the Communist regimes in the region's states (although, as shall be seen below, not the only instrument and not even the most important one, but certainly the most effective among the multilateral institutions of the Soviet bloc). Moreover, the Warsaw Pact provides added legal justification for the stationing of Soviet troops in four of the six East European member countries of the alliance: German Democratic Republic, Poland, Czechoslovakia and Hungary, strategically located on the Central European front. The events of 1956 in Hungary and 1968 in Czechoslovakia have vividly demonstrated the extent of popular discontent with the presence of Soviet troops in the region and aspirations to disengage from the Soviet alliance system, as well as the high premium placed by Moscow on the continuation of its control and military presence in this forward base area. Clearly,

withdrawal from the Warsaw Pact or unilateral initiatives for Soviet troop removal by an East European country are unacceptable to Moscow. The Soviet military hegemony in Eastern Europe, symbolized by the Warsaw Pact, remains the ultimate guarantee of Soviet political domination of the area.

From the standpoint of international politics, the main functions of the Warsaw Pact are to be found in the realms of diplomacy and propaganda. The Pact has from its inception been, and continues to be, used as a bargaining chip and quid-pro-quo in Soviet proposals aimed at bringing about a negotiated end to NATO. In this respect the meetings of the Pact's Political Consultative Committee (see below) have over the years performed the role of sounding board for Soviet foreign policy positions, particularly for the airing of Soviet proposals with respect to European questions and European security schemes. Soviet propaganda has persistently promoted the idea of a mutual dissolution of the Warsaw Pact and of NATO (the Warsaw Pact Treaty in its Art. 11 makes specific provision for the dissolution of the Pact in the event of the conclusion an all-European collective security system and treaty, which this article as well as the preamble enjoin its signatories to assist in bringing about). The ongoing M(B)FR talks are illustrative of the Warsaw Pact's value as a bargaining lever for the Soviet Union in East-West negotiations.

In addition, the Warsaw Pact provides a guarantee for the maintenance of the territorial status quo in Central Europe, inasmuch as three of its members: German Democratic Republic, Poland and Czechoslovakia, derive from their membership the Pact's support, the former for its existence as a separate German state, the latter for retention of territories acquired from Germany at the end of World War II and whose status has yet to be legalized by a peace treaty (although some progress toward legal acceptance of these frontiers has been marked by the treaties concluded by West Germany with Poland, Czechoslovakia and the Soviet Union, and subsequently by the Helsinki accords).

The obverse of this function of conserving the status quo in the Eastern half of Europe is the Warsaw Pact's role in assisting in its incremental transformation in the continent's Western half. The forward deployment of Soviet and Warsaw Pact forces in Central Europe has the effect, to use George Kennan's term, of casting a "psychological shadow" which extends over Western Europe as well as over Eastern Europe. This situation can not, over the long run, fail to exert a certain degree of influence upon the domestic politics and foreign policies of the West European nations, probably with increasingly apparent results if the factor of geostrategic and political proximity continues to be compounded by the present trends in the East-West (strategic and naval as well as theater) balance of forces.

Finally, from the perspective of world politics, the Warsaw Pact and Soviet domination thereof elevates the Soviet Union to the position of leader of a group of powers and of one of the world's two competing alliance and political-ideological systems, thereby bestowing upon the Soviet Union the status and prestige attendant to that position, and placing Moscow on a level of symbolic equality with the United States as a rival alliance and system leader in the contemporary world.

*Military Functions of the Warsaw Pact*

From the military standpoint, the Warsaw Pact's functions can be broadly defined as providing the framework for military cooperation and coordination among the armed forces of the member states, and augmenting the Soviet Union's military capacities against the West.

The armed forces of the Warsaw Treaty Organization (WTO) have attained an advanced degree of coordination and standardization in the areas of planning, strategy, doctrine and training, through the generalized adoption and assimilation of Soviet concepts, objectives, methods and organizational forms. This achievement is chiefly due to the disproportionate weight carried by the Soviet Union and its hegemonic position—political as well as military—within the alliance, and has also been facilitated by the fact that considerable numbers of East European officers have undergone Soviet training.

An advanced degree of standardization of equipment has also been attained by the WTO forces, thanks mainly to the extensive Soviet supply programs over the past fifteen years, and in addition to the local manufacture by Warsaw Pact allies of selected categories of military materiel in accordance with Soviet and WTO common standards and specifications. Quite apart from its beneficial economic effects concerning production efficiency and costs, equipment standardization simplifies supply problems and ensures inter-allied weapons coordination, ammunition compatibility, inter-operability of equipment, and theater flexibility. WTO is far ahead of NATO with respect to equipment standardization, not having had to contend with the problems confronting the Atlantic Alliance in the form of dispersion of efforts and duplication of weapons arising from the existence of individual national arms industries with a multiplicity of standards and reflecting varying military doctrines. No WTO member state possess a national manufacturing capability for a complete range of military equipment. Successful standardization of WTO materiel is the result, however, not of production cooperation and specialization among members (with the partial exception of Czechoslovakia's specialized manufacture of reputable light arms for export within as well as outside the bloc), but of the general adoption of Soviet equipment standards and the perpetuation of a Soviet quasi-monopoly of manufacture and supply particularly with respect to military hardware and to more advanced weapons.

The bulk of the equipment in use in the WTO armed forces is also in use in the Soviet armed forces, although the proportion of up-to-date materiel in the former is lower than it is in the latter. Advanced conventional weapons systems from the Soviet inventory have increasingly been made available to the WTO armed forces (although time lags do occur between the Soviet deployment of a particular weapon and its delivery to WTO allies, due in some instances to priority deliveries to Moscow's Middle Eastern arms recipients). Such advanced items have included the T-62 (T-70) tank, the PT-76 amphibious tank, the Mig 21 plane, SAM 6 rockets, and anti-tank precision wire-guided weapons, as well as self-propelled artillery guns and amphibious personnel carriers. The Pact's members have also been equipped with Scud and Frog surface-to-surface missiles capable of carrying both conventional and nuclear warheads, but access to the nuclear warheads has remained strictly Soviet-controlled.

The main recipients of advanced types of Soviet weaponry have been the German Democratic Republic, Polish and Czechoslovak armed forces, situated on the Central European front. The expansion and extensive modernization and training programs of these forces in recent years reflects Moscow's increased reliance on the contribution of its allies to total WTO conventional military capacity and combat potential, particularly in view of the apparent Soviet conclusion (as it surfaces in Soviet military writings) that strategic nuclear parity tends to enhance the possibility of conventional regional conflict in Europe.

In addition to the forces of the Central European WTO members (whose aggregate levels are given in their principal components in a preceding section), Soviet forces stationed in the Central European area comprise thirty-one divisions (an increase of five divisions since 1968), including fifteen tank divisions, with their weaponry being continually upgraded.

The geostrategic and political importance of this area explains the concentrated Soviet and WTO efforts to steadily upgrade the theater forces stationed therein. The emphasis placed upon the expansion of military capabilities in this sector stands in contradistinction to the situation prevailing in the WTO's Balkan sector, consisting of Romania and Bulgaria, an area referred to as the "Southern tier" of the WTO and regarded as being of secondary strategic and political significance. In contrast, the "Northern tier" (German Democratic Republic, Poland and Czechoslovakia) is officially described as "the first strategic echelon" of the Warsaw Pact, and it is here that the Soviet Union and WTO have concentrated the effort to achieve significant military superiority. This forward base and deployment area holds decisive strategic and political importance both in terms of European and global power politics, opening as it does the way for direct Soviet action in or pressure upon Germany and Western Europe. The military capacities of the WTO forces of the "Northern tier" states have steadily increased in recent years and represent a significant accretion to the Soviet Union's own theater warfare potential and peacetime threat value in Europe.

#### *Formal Structure and Organization*

The two major coordinating and policy issuing bodies of the Warsaw Pact and WTO are the Pact's Political Consultative Committee (PCC) and the Joint Command of the WTO armed forces, both with headquarters in Moscow.

The PCC's main functions have to do with the general coordination of the foreign policy of the Pact and its member states and the airing of bloc positions on international, particularly European matters. The PCC consists of the General (or First) Secretaries of the Communist Parties, the Presidents of the Councils of Ministers and the Ministers of Foreign Affairs of the member states. The statutory frequency of PCC meetings is twice a year, although in practice their frequency has been varying over the years: while only eleven meetings (instead of thirty) took place between 1955-1969, the statutory requirement of biannual meetings has come close to being met in the years after 1970, reflecting the greater Soviet emphasis on the Pact's military value and increased Soviet politico-diplomatic activism in European affairs. Between PCC meetings routine business is carried out by the Permanent Commission and the Joint Secretariat, both of which are

located in Moscow and whose staffs are headed by and consist predominantly of Soviet representatives.

The Joint Command is the policy issuing and overseeing body for the Joint Armed Forces, whose Staff implements Joint Command decisions. Each WTO member state is represented on the Joint Command by a Deputy Defense Minister with the title of Deputy Commander in Chief of the Warsaw Pact armed forces. The Commander in Chief of the Warsaw Pact armed forces has always been a Soviet officer—currently Army General Viktor G. Kulikov—with another Soviet officer as First Deputy Commander in Chief—a post filled *ex officio* by the Chief of Staff of the Joint Armed Forces—and one Soviet Deputy Commander in Chief. (General Kulikov's predecessor, Marshal Ivan Y. Yakubovsky, died in November 1976. Like Yakubovsky, Kulikov is an armor officer and a former commander of the Soviet forces in the German Democratic Republic).

The Staff of the Joint Armed Forces has been institutionalized since 1969, after having previously been set up on an *ad hoc* basis in connection with the various joint maneuvers carried out during the 1960's. It is composed of Soviet and East European Deputy Chiefs of Staff, mostly of Major General rank (two Soviet and one for each East European state), assisted by national delegations whose size is proportionate to the military contribution of each state. The post of Chief of Staff of the Joint Armed Forces has always been occupied by a Soviet General—currently by Army General Anatoly I. Gribkov (he succeeded in April 1976 his deceased predecessor, General Sergei M. Shtemenko).

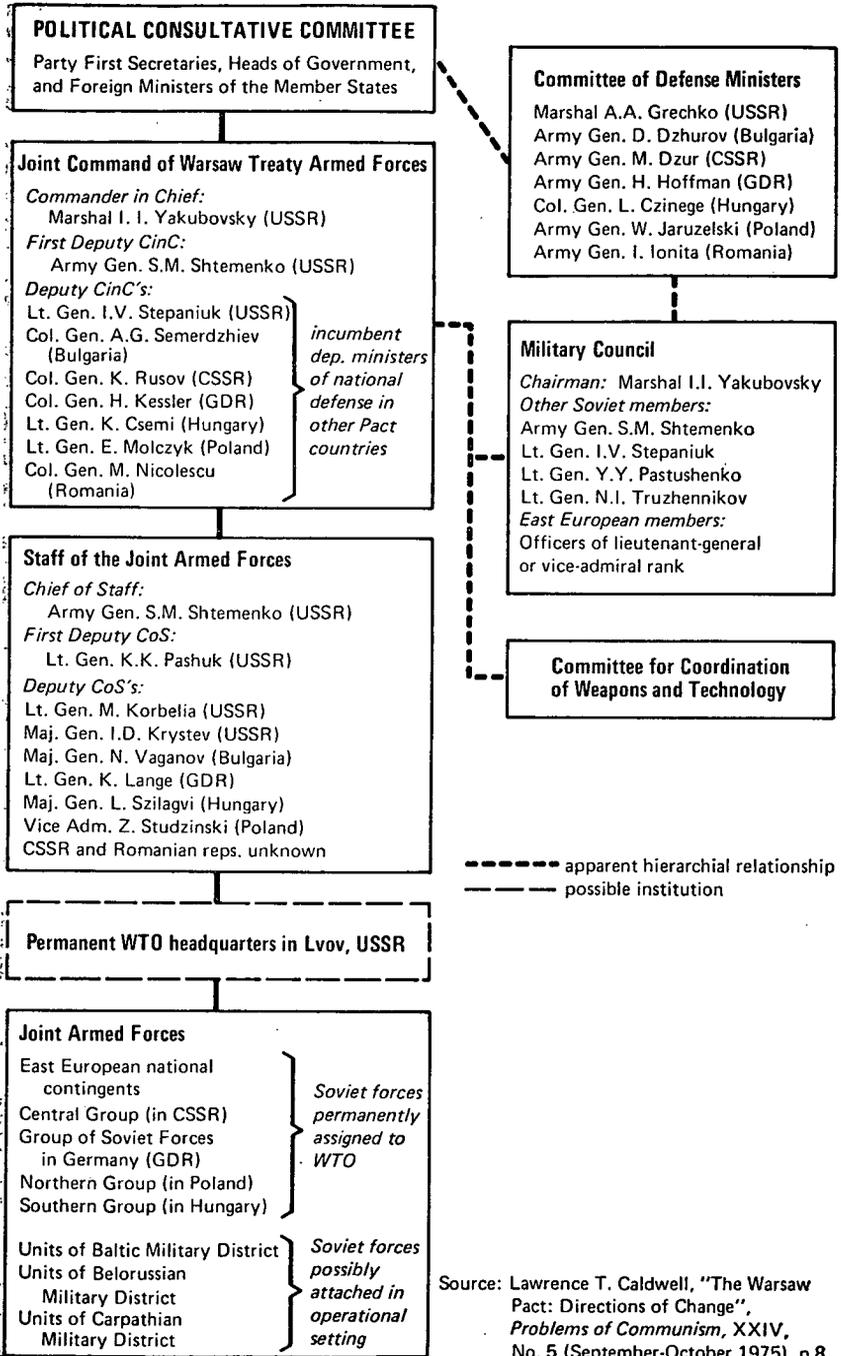
It is not clear what the attributions (officially referred to as "consultative") of two other WTO organs created in 1969 are. The first of these, the Committee of Defense Ministers (whose establishment formalized the long-standing practice of the Defense Ministers' multilateral meetings) does not appear to entail for its members any responsibilities beyond those of their respective national offices. Moreover, it is the Commander in Chief, not the Committee of Defense Ministers, who has the responsibility of advising the PCC on military matters. The second of these organs, the Military Council of the WTO, which is headed by the Commander in Chief of the Warsaw Pact armed forces and the Chief of Staff of the Joint Armed Forces and heavily dominated by Soviet officers, is likely to function as a consultative body patterned on the military councils of Soviet military regions and "fronts".<sup>3</sup>

Finally, one other relatively new organ instituted in 1969 and about whose functioning even less is known is the WTO's Committee for Coordination of Weapons and Technology.

While these WTO institutional bodies may create the appearance of a multinational political process in WTO policy formation and command structure, there is little doubt that actual decision-making and execution power, to the extent to which it is vested in WTO, is concentrated firmly in Soviet hands. However, WTO itself does not provide effective means for systematic policy-making and centralized enforcement of decisions. These are ensured by the Soviet Union's capacity in relation to each individual East European state to induce conformity with respect to the adoption and implementation of decisions that Moscow wishes to see carried out.

<sup>3</sup> See A. Ross Johnson: "Has Eastern Europe become a liability to the Soviet Union? The military aspect", in Charles Gati, ed.: "The International Politics of Eastern Europe," New York: Praeger, 1976.

# WTO Command Structure



*Bilateral Politico-Military Ties—The Substance of the Soviet-East European Alliance System*

It may be concluded from the above that the Soviet Union has avoided multinational military integration of the WTO member states, having clearly found it more convenient to control their respective armed forces separately (in ways which will be outlined below). Meaningful integration among the armed forces of the East European states on a multinational basis would be inconsistent with, and is precluded by, the complete Soviet domination of WTO and of the military establishments of each individual WTO state. Soviet hegemonic motives (quite apart from the muted nationalistic frictions persisting among the East Europeans themselves) thus account for the fact that cooperation among East European armed forces is extremely reduced, and that even at joint maneuvers there is only minimal contact between the various national units.

In peacetime the great bulk of the armed forces of the East European states remain subordinated to their national commands and under the control of the respective Communist Party leaderships. (The only exception to this rule are the East German armed forces, which are in their entirety under the authority of the WTO Joint Command and consequently under Soviet authority). The principle of national, i.e. Communist Party, control over the national armed forces in peacetime continues to be basic to the organization of WTO.

Removed from national authority in peacetime are only those units of the East European armed forces which, in accordance with Art. 5 of the Warsaw Pact, are "assigned" to the Joint Command. The Joint Armed Forces of WTO are mostly Soviet in composition: they consist of the Soviet forces stationed in East Germany, Poland Czechoslovakia and Hungary, all East German forces, and selected limited national contingents from the other WTO member states specially earmarked for WTO service. In various operational contexts Soviet forces stationed in the Soviet military regions abutting on the Soviet Union's Western frontiers would probably be attached to the Joint Armed Forces.

The East European contingents assigned to the Joint Armed Forces are ultimately subordinated to the Soviet high command: the commander of the Soviet Ground Forces commands the WTO Joint ground forces as well (Army General Ivan G. Pavlovsky, who directed the Soviet-led Warsaw Pact invasion of Czechoslovakia); the commander of the Soviet Air Forces also commands the WTO Joint air forces (Aviation Marshall Pavel S. Kutakhov); and the commander of the Soviet Navy, Fleet Admiral Sergei G. Gorshkov, also commands the WTO Joint naval forces (in the Baltic Sea the chain of command passes through the commander of the Soviet Baltic fleet, under whose authority are the Polish and East German fleets). In addition, the air defense forces of all East European states have been integrated under the authority of the commander of the Soviet air defense forces (Marshal Pavel F. Batitsky) who is concurrently the WTO commander of air defense forces.

All these command arrangements, along with the continued Soviet quasi-monopoly of the second and even third level command positions in WTO, are probably fair indications of the nature of operational arrangements under which the East European armed forces would

function in time of war. There is no indication that at such time the WTO and its institutional bodies would assume any meaningful functions. The type of integration apparently being envisaged for the WTO armed forces in time of war is their integration on a bilateral basis with relevant Soviet theater forces. There is consensus among military specialists that in case of military conflagration in Europe the armed forces of the East European states probably would not operate within the framework of WTO or be commanded through WTO, but would be incorporated directly in Soviet army groups and subordinated to the authority of the Soviet theater and high command. (Moreover, as part of Soviet "fronts" or army groups they would probably operate with Soviet forces on their flanks and rear to shore up their performance).

This pattern, which was employed by the Soviet Army in the closing stages of World War II, and is validated by contemporary Soviet military doctrine, was followed in the Soviet-led invasion of Czechoslovakia: while the WTO command under Marshal Yakubovsky was in charge of the pre-invasion WTO maneuvers in and around Czechoslovakia, the WTO invasion forces consisting of Soviet, East German, Polish, Hungarian and Bulgarian units were deployed by the Soviet field commanders without reference to WTO, and the whole operation was directed by General Ivan G. Pavlovsky, the Commander in Chief of the Soviet Ground Forces, from a forward headquarters of the Soviet high command. In short, WTO appears to be of little relevance to Soviet planning for theater war in Europe and without responsibilities for the conduct of military operations. Its main attributions, as Malcolm Mackintosh concludes, are primarily administrative in nature and pertain chiefly to mobilization, training and equipment.<sup>4</sup>

The absence of multilateral integration in WTO, the latter's military irrelevance in wartime, the often-reiterated Soviet offer to have WTO dissolved together with NATO (as well as, on a more general plane, the time-honored Soviet preference for the bilateral approach in its relationships of all kinds with the East European states), all these considerations lead to the conclusion that multilateral institutions and multilateral cooperation do not form the basis of the Soviet-East European alliance system.

The real and solid foundation and infrastructure of this system is the network of bilateral alliance treaties and other formal and informal ties and arrangements in existence between the Soviet Union and the states of Eastern Europe on a bilateral basis.

The long-term alliance treaties forming the legal base of this system were concluded by Moscow bilaterally with each bloc state, and also by each bloc state with each other one, before the establishment of the Warsaw Pact and WTO, were subsequently supplemented by status of forces agreements, and were renewed in recent years for periods of twenty to twenty-five years. They are likely to remain in force in the event of the achievement of the Soviet objective of a simultaneous disbandment of NATO and WTO.

The significance of these treaties and agreements is as follows. First, they define the politico-military relationship of the Soviet Union to each of its East European allies, and serve to formalize Soviet domina-

<sup>4</sup> Malcolm Mackintosh: "The Warsaw Pact Today," *Survival*, May-June 1974.

tion thereof. Second, they legalize the stationing of Soviet forces in four East European states. Third, they establish the basis for bilateral military cooperation in wartime, unavoidably under Soviet command. Fourth, they sanction in advance the use of the armed forces of any and all East European states in any area of the European theater, since the cumulative effect of the network of treaties is to extend and generalize the obligations of mutual assistance of each state so as to automatically commit all of them to a conflict involving any one of them. This latter effect of the Soviet-East European treaty network amounts cumulatively to a legal duplicate of the Warsaw Pact, and a substitute for it (ensuring, *inter alia*, continued forward deployment of Soviet forces in Central Europe) in the event of a negotiated simultaneous dissolution of WTO and NATO.

In addition, bilateral alliance treaties renewed in recent years between the Soviet Union and the East European states differ from the Warsaw Pact in that their language tends to extend geographically the obligation of military assistance by discarding the Pact's territorial limitation to Europe.

The presence of Soviet forces in the German Democratic Republic, Poland, Czechoslovakia and Hungary, with all its implications in terms of Soviet political domination and military control of these states (quite apart from the implications in terms of international politics), is governed not by WTO arrangements, but by bilateral arrangements between the Soviet Union and each country concerned. Troop disposition and movements are being arranged between the Soviet commanders and the respective state authorities, with the local Defense Minister probably providing the main contact between the Soviet command and the local political leadership. The stationing of Soviet forces in these countries is normalized by bilateral status-of-forces agreements which go to great lengths in emphasizing the sovereignty of the host state, and even make the dubious claim, as does the post-invasion agreement with Czechoslovakia, that the presence of Soviet forces "does not violate the sovereignty" of the country.<sup>5</sup>

An additional instrument of Soviet control outside WTO machinery is provided by the Soviet military missions in the East European capitals (which were also instituted before the establishment of the Warsaw Pact). In addition to their military training and advisory roles, these missions constitute a bilateral conduit for exerting Soviet influence and surveillance over the East European military establishments, cultivating pro-Soviet military interest groups, and maintaining a potential substitute for WTO mechanisms and channels in the event of a negotiated dissolution of military blocs.

Deliveries of Soviet equipment to the East European armed forces are likewise arranged on a bilateral basis, with the Soviet Union deriving the advantages in terms of political as well as military leverage accruing to a virtually unique supplier in relation to its client.

Soviet control over the military establishments of the East European states is exercised through nationals of these states as well. Former Soviet officers who adopted the citizenship of one or another East

<sup>5</sup> Yet another matter of bilateral arrangements between the Soviet Union and some East European countries is the delivery to the Soviet Union of probably their entire output of uranium, the amounts of which are not disclosed, from the uranium mines near Aue in the German Democratic Republic, at Jachy mov, Teplice and Pribam in Czechoslovakia, and near Pecs in Hungary. (Romania's Soviet exploited uranium reserves appear to have been exhausted in the early 1960's).

European state, or officers of Russian or Ukrainian background, are still occasionally to be found in prominent positions in East European armed forces, but their numbers have markedly declined in comparison with earlier periods. By now a considerable proportion of the officer corps, particularly of senior rank, in the East European military establishments have undergone Soviet training, and many of them have in all likelihood preserved Soviet connections and remained receptive to Soviet guidance or responsive to Soviet directions. All East European Defense Ministers have either received training in the Soviet Union, or have had careers as political commissars, or both.

Finally, the East European states, their military resources and their intelligence apparatuses have been individually utilized by the Soviet Union as intermediaries or proxies in its conflict undertakings abroad, outside the framework of the Warsaw Pact. Such assignments as intelligence operations, covert and subversive activities, delivery of arms to anti-Western governments, supply and training of guerrilla movements, or dispatch of instructors, have been performed by virtually every East European state on behalf of the Soviet Union, in most areas of the world beyond Europe, with no reference to the Warsaw Pact or WTO.

In conclusion, the substance of the Soviet-East European alliance system consists of an intricate web of politico-military ties, both direct and indirect, both formal and informal, which antedate the establishment of the Warsaw Pact and WTO, function to a large extent outside its framework, and will in all likelihood continue to function in the event of an East-West negotiated agreement for the mutual dismantling of military blocs.

#### GENERAL CONCLUSIONS

Eastern Europe as a region remains, as it has historically been, an object rather than a subject of international relations. At present the Soviet Union exercises undisputed politico-military control over Eastern Europe, and the West has long refrained from challenging it or from attempting to resume a political role in the region. Control over Eastern Europe strengthens substantially the Soviet power position in international politics in geopolitical, economic, and military terms. In the long run perhaps the chief importance of Eastern Europe to the Soviet Union is that it places the latter in an advantageous position to pursue the object of gradually neutralizing and eventually dominating Western Europe, the key to the world balance of power, and thereby achieving a sum of power which would give the Soviet Union a position of dominance in world politics.

The Soviet-East European alliance system provides the main guarantee for the continuation of Soviet authority in Eastern Europe. The way in which this system is organized and operates tends to substantiate the continued validity of the metaphoric description of the East European regimes' dependent position vis-à-vis the Soviet power center as satellites of the Soviet Union. The Communist regimes' domestic monopoly of power is derivative in nature, being a function of their external politico-military alignment with the Soviet Union.

The phenomena of political dissent and social unrest which have recently surfaced with new vigor in Eastern Europe are not in themselves likely to develop into processes of internal change with implications for the international system and the East-West power balance. For the foreseeable future, the Soviet-East European alliance system can be safely expected to continue to fulfill its "internal" political function of containing the latent political instability of the area. Meaningful internal change with consequences affecting international relations can not be achieved from within the region, as historical experience has repeatedly shown, unless external factors can be brought into play. The key to continuity or change in the political status of Eastern Europe and in its alignment in international relations lies outside the region itself.

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Part II. INDIVIDUAL COUNTRY STUDIES

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# ECONOMIC PERFORMANCE, STRATEGY, AND PROSPECTS IN EASTERN EUROPE

BY PAUL MARER\*

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## I. INTRODUCTION

The purpose of this overview is twofold. As coordinator of the nine country studies (two on Romania) which follow, my first task is to summarize, selectively highlight, and provide a guide to the contributions. My second purpose is to present some of the most important similarities and differences among the eight countries and to provide analytical insights on selected issues. The East European countries differ in most respects: size; resource endowment, historical and cultural experience, nationality, language, level of economic development, direction and speed of changes in their economic system, development strategy, economic performance, and political orientation. These countries would differ from one another even if Albania and Yugoslavia were not included; their inclusion increases the diversity.

The nine studies vary in coverage and length. This is partly deliberate and partly the result of circumstance. Coverage of the individual contributions has been determined in part by the availability of data and new information, and partly by the extent of analytical work already completed in the West. For countries such as Albania, Romania, and Bulgaria, much of the effort had to be devoted to collecting, evaluating, and presenting hitherto not readily available information and data. This is one reason why the longest contribution is on Albania. Very little is known in the West about the economy of that country due to a combination of its tiny size, self-imposed isolation, lack of published data, and scarcity of experts in the West. We are particularly pleased, therefore, to present probably the most comprehensive and detailed English-language contribution on post-war economic developments in Albania. Among the unique features of that country study are: (1) the reconstruction of Albania's national accounting framework; with estimates of components in Albanian currency and conversion of the main aggregates into U.S. dollars; (2) an economic comparison between Albania and the Albanian region of Yugoslavia, i.e., the autonomous province of Kosovo where two-fifths of the four million Albanians in the Balkan peninsula reside; and (3) detailed post-World War II estimates of Albania's aid and

trade relations, a notable contribution in view of the fact that neither China nor Albania publishes statistics on aid and that Albania has reported no trade figures since 1965.

The second longest contribution is on Romania, another country for which few comprehensive statistics are available in the West. Jackson's contribution represents an updating of information and data contained in Montias' *Economic Development in Communist Rumania*, which analyzed developments in that country up to the mid-1960's. Montias also contributes an essay, focusing on the relationship between the country's industrialization strategy and foreign trade performance.

For countries like Hungary, Poland, and Yugoslavia, which have already received analytical attention by Western economists, the contributions are generally more analytical or they focus selectively on issues. For example, Portes examines the evolution of Hungary's New Economic Mechanism, and Fallenbuchl discusses Poland's new economic strategy and its implications.

Contributions in other sections of this volume discuss particular issues all across Eastern Europe in much greater depth than was possible in the individual country studies or in this overview. These include such topics as economic structure and performance of six East European countries (excluding Yugoslavia and Albania) by Alton, a cross-section contribution on East European agriculture (including Yugoslavia) by Lazarcik, on economic reforms in Eastern Europe by Bornstein, and others focusing on energy, trade, and the balance of payments.

Part II of this essay calls attention to some important "environmental" differences among the East European countries. The roots of the diversity in the region can be traced to the enormous differences in the initial postwar "environments" under which the centrally planned economic system was introduced in the East European countries. These differences were, in some cases, further accentuated, or diminished, by certain postwar events and the special economic links that some East European countries were able to forge with countries outside the region, such as Bulgaria with the USSR, Albania with China, and the GDR with the FRG.

Part III compares two of the most commonly used measures of economic growth performance, the officially reported NMP and Western-recalculated GNP figures for the period 1965-76 and plans for 1976-80. Each country is "ranked" on the basis of these indicators. It must be stressed, however, that the statistical measures are not yet precise enough to make fine distinctions among the countries. Hence, no great significance should be attached to relatively small differences in the performance indicators. Still, the tabulated data offer evidence on the relatively fast-growing and relatively slowly-growing countries in the region. Of particular interest is the attempt to place Albania and Yugoslavia in the East European spectrum. The recent growth performance of the two countries is neither particularly rapid nor especially laggard.

Part IV compares the sources of growth in Eastern Europe. Section A focuses on capital and labor inputs and productivity, but the available data are not good enough to draw more than a few highly tentative conclusions on the relationship between inputs and output. A brief country review illustrates many of the frustrating data problems.

More detail is presented on two other (and increasingly important positive or negative) sources of growth: Foreign borrowing and lending (Section B) and changes in the terms of trade (Section C). Three subsections examine (1) borrowing from the West; (2) credit relations with the USSR; and (3) credits granted by East Europe to less developed countries. In discussing East Europe's borrowing from the West and Albania's from China, the focus is on the growth contribution of borrowed resources rather than on the debt burden which borrowing creates.

In discussing East Europe's credit relations with the USSR, attention is drawn to the complexity of the relationship, stressing the two-way flow, not only of trade but also of credits. For a variety of economic and political reasons, individual East European countries are treated differently by the USSR so that no easy generalizations about the effect on their growth are possible.

In discussing the terms of trade, I attempted to go beyond readily available information in the individual contributions. Based on price information pieced together from a variety of sources, an estimate is made of the terms of trade since 1970 of all East European countries, separately with socialist and Western partners. For Hungary only, two price indices are presented in socialist and in Western trade: one set includes "dollar trade" with CMEA countries in socialist trade; the other excludes "dollar trade" from ruble-settlement accounts. The derivation of Hungary's 1975 "dollar trade" with socialist countries is found in the Appendix.

Section D highlights Keren's analytical conclusions on one country, East Germany, which shows how numerous pressures generated by the foreign sector are now converging on the GDR. It is suggested that the kind of analysis Keren presents may be applied to other East European countries if one seeks a better understanding of their prospects to 1980.

Part V highlights major differences and changes among the countries in their economic strategies, systems (reforms), and policies. The region is divided into the four Southern Tier (Balkan) countries and the four Northern Tier countries.

Part VI makes a few general observations about these countries economic prospects until 1980. The principal problems facing these countries are: (1) how to start repaying their hard-currency debts without seriously impeding the continued progress of their economies, and (2) the related problem of how to solve the systemic limitations on improving productivity. The latter issue is becoming more urgent because capital and labor inputs will grow much more slowly in the future.

## II. THE ENVIRONMENTAL VARIABLES

A country's economic strategy and performance is the outcome of many complex forces which can be classified into three broad groups of explanatory variables: environmental, systemic, and policy-derived.<sup>1</sup>

Environmental variables can be subdivided into those shaping the initial and those conditioning the contemporary environment. The division is to a degree arbitrary. It depends in part on the period

<sup>1</sup> Based on J. M. Montias' contribution to this volume and on E. Neuberger and J. Duffy, "Comparative Economic Systems" (Boston, Mass: Allyn and Bacon, Inc., 1975).

chosen for analysis: the policies and system features of one period shape the initial environment of the next period.

A useful point of departure for analyzing East Europe's contemporary achievements and problems is a brief examination of the initial environments in which these countries entered socialist economic construction after World War II because even today these inevitably condition their policies, performance and prospects. One of the most important general considerations across all of Eastern Europe at that time was the economic backwardness of much of the region. This could be measured by decades in the case of some countries; in the case of others, like Albania, perhaps by a century or more, as compared with the development levels and economic potential of the principal countries of West Europe. The writings of East European economists continually stress this point:

One of the most important criteria of survival of the new societies in Eastern Europe was their ability to close rapidly the large gap in the existing production and consumption levels as compared with the highly developed capitalist world, . . . dictated [in part] by the practical circumstance that these . . . countries were all located on the periphery of the capitalist world economy center: Western Europe.<sup>2</sup>

### *A. Different Initial Conditions*

East European countries introduced central planning under different initial conditions. Among the most important differences were the following:

#### SIZE OF THE ECONOMIES

Most striking of course is the difference between the relatively small and resource-poor countries of Eastern Europe and the continental-size and resource-rich USSR (whose economic model was inappropriately copied after the War in all East European countries). The East European economies ranged from tiny Albania to medium-size countries—in terms of population and land area—like Poland, Romania and the GDR.

#### LEVEL OF DEVELOPMENT

When World War II ended, the region could be divided into industrialized nations (the GDR and Czechoslovakia); countries at the beginning stage of industrialization, but with few developed industrial sectors (Hungary and Poland); and very poor, essentially agricultural societies (Romania, Bulgaria, Yugoslavia and, the poorest country by far in all of Europe, Albania).

#### STATEHOOD

In judging initial environmental conditions, one must consider how long ago the nation-state was created. A political unit whose territory had not been reorganized recently, with a history of effectively functioning governments in a stable nation-state, provides a much more solid base for economic development than a unit where these conditions were largely absent. With respect to territorial integrity, only two East European countries, Bulgaria and Albania, have been located essentially on the same territory since before World War I. The

<sup>2</sup> K. Pécsi, et. al., "Az európai szocialista országok gazdasága" (Budapest: Kossuth, 1975), p. 6.

nation-states corresponding to today's Hungary, Czechoslovakia, Yugoslavia, and Romania were formed only after World War I. By contrast, Poland was transformed after World War II with respect to its geography and the composition of its population; and the GDR was formed as a nation-state in the late 1940s, and then stood diplomatically isolated for about two decades by much of the Western world.

#### REGIONAL DISPARITIES AND NATIONALITY PROBLEMS

Many economic difficulties regarding the mobilization and allocation of resources may be avoided if a country has (1) no sharp conflicts among the different nationalities or other minorities that might live within its borders and (2) no serious regional inequality problems. In both respects, Yugoslavia was (and still is) the most heterogenous; significant differences also existed (and still do) in Czechoslovakia. The situation is more favorable in this regard in the other countries; although in Romania, 13% of the population is comprised of nationalities (9% of which are Hungarians). In Bulgaria, at least 10% of the population are Turks, Greeks, Romanians, Armenians, and so on. The other East European countries, with the exception of the GDR, also have minority national groups and relatively backward regions.

#### RESOURCE ENDOWMENT

The natural resource endowment of a country is an important environmental factor. This inevitably influences economic structure, industrial location, investment policy, and foreign economic relations. Possessing some natural resources that are important for the domestic economy and may provide significant export earnings are Poland (black and brown coal, copper, sulfur, lead, zinc, iron ore, aluminum, and natural gas); Romania (oil and gas, coal, bauxite and salt); Yugoslavia (iron ore, copper, timber, lead, coal, bauxite); and Albania (chromium, timber, bitumen, lignite, crude oil, gas, copper and iron ore). Poorly endowed with natural resources are the GDR (although it has brown coal, potash, iron ore); Czechoslovakia (coal, antimony, magnesite, pyrite, fluorspar, iron ore, copper, manganese); Hungary (bauxite, coal, natural gas, sulfur); and Bulgaria (low-grade coal, lead, zinc, copper, chromium, manganese ore, asbestos).

An important aspect of resource endowment is the suitability of the country's soil and climate for agriculture. Quite well endowed in this respect are Hungary, Romania, Bulgaria (reasonably self-sufficient in food and some possible net exports) and, to a lesser extent, Poland and Yugoslavia. The GDR and Czechoslovakia are more suitable for industrial specialization.

Location and climate are also important for attracting tourists who tend to seek sun and water. Yugoslavia, Bulgaria, Romania, and, to a lesser extent, Hungary have exploited this advantage since the mid-1960s by specializing in providing tourist services, while Albania has not yet taken advantage of its tourist potential.<sup>3</sup>

<sup>3</sup> For a discussion of the economics of tourism in Eastern Europe, see Paul Marer and John Tilley, "Tourism," in "Reorientation and Commercial Relations of the Economies of Eastern Europe." A compendium of papers submitted to the Joint Economic Committee, Congress of the U.S. (Washington, D.C.: GPO, 1974).

## LOCATION

An important environmental condition is whether a country is landlocked, like Hungary and Czechoslovakia, or has a long seashore and good seaports, like the GDR, Poland, and Yugoslavia.

## WAR DAMAGE, REPARATIONS, AND OTHER UNREQUITED TRANSFERS

The war had different effects on the countries of Eastern Europe in terms of the destruction of physical and human capital as well as postwar reparation obligations. In terms of war-related destruction, the greatest damage was suffered by the territory which subsequently became the GDR, and Poland, whose capital and other cities were largely destroyed. Reparations were made principally to the USSR, along with outright economic exploitation by the Soviets under Stalin. The GDR carried the largest burden by far, but substantial economic resources were also extracted from several other East European countries. My own rough estimate, based on careful assessment but rather incomplete data, suggests that until Stalin's death in 1953, the size of the unrequited flow of resources from Eastern Europe to the Soviet Union was of the same order of magnitude, cca. \$14 billion, as the flow of resources from the United States to West Europe under the Marshall Plan.<sup>4</sup>

## NO TRADITION OF REGIONAL COOPERATION

Isolated by the USSR and the West from much of the outside world after World War II, the region was without a historical tradition of regionwide economic or political cooperation. In addition to the obvious problems posed for these countries by Soviet domination, the lack of previous experience in regional cooperation made it that much more difficult to adjust to the new conditions. To be sure, the Soviet Union under Stalin discouraged economic and political cooperation among the East European countries. But even after this Soviet pressure ceased, intra-East European cooperation can be observed more in form than in substance; the lack of a tradition of regional cooperation is certainly a factor.

*B. Further Differentiation: Special Postwar Events and Status*

## OWNERSHIP PATTERNS IN AGRICULTURE

There is a striking difference among the East European countries, first, in the different emphases with which the postwar land reforms had been carried out,<sup>5</sup> and, second, after the initial collectivization drives began, in eventual decisions to permit the private sector to remain dominant (Poland and Yugoslavia) or to transfer agriculture into predominantly socialized forms (all other countries). To be sure, even among the latter there are significant differences in the relative importance of the residual private sector.

<sup>4</sup> Paul Marer, "Soviet Economic Policy in Eastern Europe" in *Reorientation*.

<sup>5</sup> In Czechoslovakia and Poland it consisted mainly of taking over former German and other "enemy" lands; in Hungary and Albania it liquidated feudal remnants of all types. In the other countries only a small portion of land was redistributed. See Nicolas Spulber, *Socialist Management and Planning* (Bloomington: Indiana University Press, 1971), Chapter 5.

The countries also differ in the form under which socialized agriculture functions. State farms are relatively the most important in Romania and Czechoslovakia (tilling approximately one-third of the arable land) and are least important in the GDR and Bulgaria. Moreover, collective farms vary with respect to size, organization, system of incentives and remuneration, to mention just a few of the factors that describe them. There are also significant differences among the countries, and in a given country over time, in the scope of activity permitted on private plots.

#### MILITARY BURDENS

East European countries differ in the size of their military expenditures which they decided, or have been asked to shoulder. It is generally believed that during the 1950s Czechoslovakia carried a particularly onerous burden.<sup>6</sup> During much of its postwar history, Yugoslavia also allocated a relatively large slice of its resources to national defense.<sup>7</sup> Even today, under conditions of relative peace, the burden of defense expenditures varies considerably from country to country.<sup>8</sup>

#### DRAMATIC EVENTS

Significant economic and political events have served as important backdrops to economic policy: the 1949–52 embargo of Yugoslavia by the Soviet Union and the other East European countries; the Western trade discrimination vis-a-vis Eastern Europe; the 1956 revolution in Hungary; the erection of the Berlin Wall in 1961 to stem the large outflow of professionals and skilled labor (between 1949 and 1961 more than 2 million residents—over 10 percent of the population—emigrated to West Germany); the 1968 Soviet invasion of Czechoslovakia; the 1956 upheavals and the 1970 and 1976 resistance to retail price rises in Poland; and the nearly 100% political and economic realignment of Albania during the early 1960s. There were also some dramatic natural disasters: the 1963 earthquake in Yugoslavia and the 1970 flood and 1977 earthquake in Romania.

#### SPECIAL LINKS WITH PARTICULAR COUNTRIES

Among the environmental considerations which bring significant economic benefits to one country but much smaller benefits or none at all to the others, are the special political and economic links that exist between countries.

#### *Bulgaria and the USSR*

The Soviets have given substantial aid in various forms to Bulgaria. For example, the Soviet Union gave several large, long-term, subsidized credits at an average interest charge of 2 percent—some

<sup>6</sup> R. Olsovsky and V. Prucha, eds. "Strucny hospodarsky vyvo Ceskoslovenska do roku 1955" (Prague: Svoboda, 1969), p. 397, as cited by Holesovsky.

<sup>7</sup> According to a Hungarian source, 17% to 18% of Yugoslavia's national income was devoted to national defense. K. Pécsi, "Az europai," p. 436.

<sup>8</sup> See T. P. Alton, et. al., "Defense Expenditures in Eastern Europe, 1965–1976," in this volume.

in hard currency—totaling 2.3 billion rubles by 1970.<sup>9</sup> The bulk of these loans are to be repaid with products of industrial complexes newly-established with the aid of these credits.

*Albania and the rest of Eastern Europe and China*

Until 1961, the Soviet Union and all other European socialist countries gave large, subsidized credits and other forms of aid to Albania. According to the careful compilation by Michael Kaser, economic aid by the USSR totaled \$156 million and technical and military assistance approximately \$100 million, while East Europe (excluding Yugoslavia) provided \$133 million in economic aid.<sup>10</sup> (Yugoslavia aided Albania only during 1947-49, when a confederation between the two countries was planned.)

It is interesting to compare the figures compiled by Kaser with data presented in a recent Hungarian publication.<sup>11</sup> It cites that in April 1957, the Soviet Union forgave Albania's cumulative debts of 442 million rubles (\$110 million) and granted further credits as follows: 1957: 160 million rubles (\$40 million); 1958: 31 million rubles (\$8 million); 1959: 339 million rubles (\$85 million). The East European countries granted and forgave subsidized credits to Albania up to 1961 as follows (in million rubles):

Creditor	Credits	Debt forgiven
Bulgaria.....	12.0	
Czechoslovakia.....	56.4	22
German Democratic Republic.....	22.9	14
Hungary.....	24.1	
Poland.....	18.9	
Romania.....	22.5	
Total.....	156.8	36
Amount (millions).....	(\$39.2)	(\$9)

The same publication also notes that in working out the details of the 1961-65 Third Five Year Plan, Albania still counted on receiving further credits, totaling 123 million rubles (\$31 million), from the socialist countries. But only a fraction of the credits had actually been extended before the break between the European socialist countries and Albania.

<sup>9</sup> K. Pécsi, "Az europai," p. 388. The figure cited is probably in "old" rubles, in which case it converts into \$575 million. Pécsi also mentions that Soviet deliveries to Bulgaria have always fitted exactly the requirements of the rapidly developing Bulgarian economy. No similar statement is made in discussing Soviet economic relations with the other East European countries.

Western calculations confirm the privileged economic position of Bulgaria. For example, from 1960 to 1965, she received almost as much aid as the other five East European client states combined, suggesting that economic aid has been a reward for political loyalty. C. Clark and R. Farlow, "Comparative Patterns of Foreign Policy and Trade: The Communist Balkans in International Politics" (Bloomington, IN: International Development Institute, Indiana University, 1976), Chapters 7 and 8.

<sup>10</sup> See contribution in this volume on Albania, Section V, Table V-3.

<sup>11</sup> K. Pécsi, "Az europai," pp. 490-492.

	<i>Million rubles</i>
Union of Soviet Socialist Republics.....	67.5
Czechoslovakia.....	24.8
GDR.....	9.0
Poland.....	2.3
Romania.....	6.8
Other countries.....	12.6
<b>Total.....</b>	<b>123.0</b>

<sup>1</sup> \$31,000,000.

In addition, other forms of aid were also given: hundreds of Albanian students studied and workers were trained in Eastern Europe; and these countries also sent engineers and other experts to Albania.

Since not all credits pledged after 1959 were fully used, the Kaser and Hungarian estimates on aid to Albania by the USSR are in close agreement. But it is interesting to note that the aid by East European countries itemized in the Hungarian source is significantly smaller than the figure cited by Kaser, although it is certainly possible that the Hungarian compiler was not aware of all the aid activity by the socialist countries.

After 1959, the principal donor of course became China, cumulating, on Kaser's estimate, \$838 million in aid by 1975.

#### *GDR and the Federal Republic of Germany*

Under a protocol of the 1957 Rome treaty which established the European Economic Community (EEC), West Germany's trade with East Germany was classified as "intra-German" and was therefore exempt from tariffs and levies which fall on trade with other non-EEC countries. Biskup quantified the benefits East Germany derives from this arrangement and concluded that a conservative estimate of its total gain in 1970 was more than DM 500 million (\$140 million at the 1970 exchange rates). It was comprised of the following items (estimated value to the GDR shown in parentheses):<sup>12</sup>

Tariff exemption for East German exports to West Germany (DM 260 m);

Exemption from levies raised on agricultural imports from all other non-EEC countries (DM 86 m);

Extra scope for price increases allowed by special arrangements for value added tax (DM 162 m);

Savings on interest payments owing to the interest-free swing credit provided by West Germany to finance trade between the two countries (DM 40 m); and

A fixed exchange rate between the two German currencies which has left East Germany unaffected by the D-mark's recent revaluations (effect not quantified).

Since intra-German trade has almost doubled since 1970, even if the benefit to the GDR has not risen proportionately to trade, its gain from this special relationship is undeniably substantial.

It is not possible at this stage of our knowledge to relate the special environmental factors listed for all countries directly to economic performance. Yet, one must state the obvious: the special factors mentioned above, the numerous other ones that surely were neglected, as well as the systemic differences among these countries must all be

<sup>12</sup> Reinhold Biskup, "Deutschlands offene Handelsgrenze" (Ullstein, 1976).

taken into account when performance is analyzed comparatively within Eastern Europe or the performance of the East European countries is compared with those of countries outside the region.

### III. ECONOMIC GROWTH PERFORMANCE

#### A. *Measurement Problems*

Growth rates depicting the output of the economy and its various sectors are published in greater or lesser detail by the central statistical offices of all East European countries. The growth rates officially claimed to have been achieved or planned show from moderate to spectacular results, depending on the country, economic sector, and period. Western experts consider the figures to be somewhat exaggerated because they are based on reports by enterprises subject, except in Hungary, to extraordinary pressures to fulfill the plan. The gross output indices sum the value of output of all producing units, and therefore include much double counting of inputs. If output in a given year is produced under more specialized arrangements than in a previous year—that is, involving a greater number of enterprises—the indices will be upward biased. A further bias is caused by a reporting system which permits and encourages the pricing of “new” products so that the value of gross output is artificially increased. The exaggeration varies not only from country to country and sector to sector but also from year to year. As a rule, the comprehensiveness of the published official statistics tends to be inversely related to the level of development (the GDR is a notable exception). The upward bias is believed to be the greatest in the official statistics published by the less developed countries, although the statistics of even the more developed countries are not immune from this problem, as is demonstrated by Keren in his contribution on the GDR, in this volume.

Western recomputations of East European growth rates employ definitions, methodologies, and weigh the component series in accord with standard Western approaches; but of course, they must contend with the scarcity of published data. Recalculated production indices by sector are based largely on officially published output series in physical units, an approach that may have a conservative bias because data in physical units do not reflect model changes and other quality improvements over time. This method also incorporates new products in the index with a certain lag after these products had been introduced. Still, most Western experts believe that the recalculated series are better indicators than the official series of long-term economic growth trends.<sup>13</sup>

#### B. *Findings*

A comparison of the officially published and recalculated Western aggregate output series (GNP or NMP) is presented in Table 1 for each of the eight East European countries as available, for subperiods between 1965–75 and annually for 1971–76. Available plan figures are also shown for 1977 and 1976–80. The tabulation includes data for Yugoslavia and the scattered series available for Albania, countries that are not part of the East European group analyzed in most statistical or analytical cross-section studies in this volume.

<sup>13</sup> Edwin M. Snell, “East European Economies Between the Soviets and the Capitalists” in Part I, pp. 12–53.

TABLE 1.—AVERAGE ANNUAL GROWTH RATES OF EAST EUROPEAN COUNTRIES' NET MATERIAL PRODUCT, OFFICIALLY REPORTED (O) AND GROSS NATIONAL PRODUCT, RECALCULATED (R), 1965-76 ACTUAL AND 1976-80 PLAN

Period	Bulgaria		Czechoslovakia		GDR		Hungary		Poland		Romania		Yugoslavia <sup>1</sup>		Albania	
	O	R	O	R	O	R	O	R	O	R	O	R	O	R	O	R
1965-70.....	8.7	4.8	6.8	3.5	5.2	3.2	6.8	3.1	6.0	3.8	7.7	4.5	6.1	(?)	9.0	(?)
1971.....	7.1	3.5	5.5	3.5	4.5	2.1	6.5	4.8	8.1	7.1	13.5	14.1	8.1	(?)	(?)	(?)
1972.....	7.7	5.0	5.8	3.6	5.7	3.7	5.1	2.4	10.6	7.1	10.0	6.3	4.3	(?)	(?)	(?)
1973.....	8.0	4.1	5.2	3.3	5.6	2.9	7.4	5.0	10.8	7.5	10.7	3.2	4.9	(?)	(?)	(?)
1974.....	7.4	3.3	5.9	3.7	6.4	5.0	6.9	3.1	10.4	5.9	12.4	5.5	8.5	(?)	(?)	(?)
1975.....	9.0	7.4	6.2	2.6	4.9	3.2	5.4	2.4	9.0	5.5	9.8	4.3	3.3	(?)	(?)	(?)
1970-75.....	7.9	4.5	5.7	3.4	5.4	3.5	6.2	3.6	9.8	6.7	11.3	6.1	6.6	(?)	6.3	(?)
1976*.....	7.0	4.6	4.0	1.9	3.7	2.4	4.0	1.2	7.5	5.7	10.5	7.1	4.0	(?)	(?)	(?)
1977 plan.....	8.2	-----	5.2	-----	5.5	-----	6.2	-----	5.7	-----	11.3	-----	(?)	-----	(?)	-----
1976-80 plan.....	7.7	-----	5.0	-----	5.0	-----	5.5	-----	7.1	-----	10.5	-----	7.0	-----	6.3-7.0	-----

<sup>1</sup> Social product defined according to the material product approach (see L. Tyson's essay in this volume, footnote 19).

\* Not available.

† Preliminary.

Source: Bulgaria through Romania and Albania, Net Material Product (National income produced),

1965-76 and 1976-80 plan: United Nations Secretariat, Center for Development Planning, Projections and Policies, based on national plans and plan fulfillment reports (unpublished manuscript); Yugoslavia: Tyson's essay, tables 2 and 8; gross national product (recalculated Western series): Thad P. Alton, "Comparative Structure and Growth of Economic Activity in Eastern Europe" (1965-70 and 1970-75 average annual growth rates, calculated by least-squares fit, as shown in table 18, and 1971-76 annual growth rates calculated from index numbers presented in table 13).

The official NMP figures measure, in constant prices, gross output by sector less material costs, excluding the so-called non-material service sectors. The recalculated GNP figures measure aggregate economic activity, including the service sectors, by summing indices of sectoral output in constant prices, using factor cost weights. Because NMP and GNP differ in coverage, methodology, and bases of valuation, the two series are not expected to present the same picture on performance. The official NMP series, while upward biased, is believed to be one of the most important indicators used by the leadership in the East European countries to judge their own economic performance. The recalculated GNP series is our best estimate of how rapidly the East European economies are growing.

Methods of calculating the indices, the definitions used, as well as the many problems and pitfalls of making inter-temporal and international comparisons are stressed in the country studies which follow this essay and in the statistical cross-section studies presented elsewhere in this volume.<sup>14</sup>

#### RANKING THE COUNTRIES

Table 2 ranks the eight countries on the basis of their overall growth performance during 1970-75 according to official data. The ranking remains pretty much the same on the basis of GNP data (recalculated growth rates are not available for Yugoslavia and Albania), but would change slightly if 1965-75 growth rates were the criterion.

TABLE 2.—RANKING OF THE EAST EUROPEAN COUNTRIES BY GROWTH PERFORMANCE, 1965-76 ACTUAL AND 1976-80 PLAN

[Average annual rate of growth in percent]

Country and measure	1965-70	1970-75	1976	1977 plan	1976-80 plan
1. Romania:					
NMP .....	7.7	11.3	10.5	11.3	10.5
GNP .....	4.5	6.1	7.1		
2. Poland:					
NMP .....	6.0	9.8	7.5	5.7	7.1
GNP .....	3.8	6.7	5.7		
3. Bulgaria:					
NMP .....	8.7	7.9	7.0	8.2	7.7
GNP .....	4.8	4.5	4.6		
4. Yugoslavia: Social product .....	6.1	6.6	4.0	( <sup>1</sup> )	7.0
5. Albania: NMP .....	9.0	6.3	( <sup>1</sup> )	( <sup>1</sup> )	6.3-7.0
6. Hungary:					
NMP .....	6.8	6.2	4.0	6.2	5.5
GNP .....	3.1	3.6	1.2		
7. Czechoslovakia:					
NMP .....	6.8	5.7	4.0	5.2	5.0
GNP .....	3.5	3.4	1.9		
8. GDR:					
NMP .....	5.2	5.4	3.7	5.5	5.0
GNP .....	3.2	3.5	2.4		

<sup>1</sup> Not available.

Source: Table 1.

Based on 1970-75 performance, the eight countries can be divided into two groups; the three relatively fast-growing countries of Romania, Poland, and Bulgaria, and the less rapidly growing other countries. Taking the 1965-76 actual and 1976-80 plan figures into

<sup>14</sup> See especially the contribution by Thad P. Alton "Comparative Structure and Growth of Economic Activity in Eastern Europe," in this volume.

account, Romania can probably claim the first place and Bulgaria second.

Interesting to note is the position of Yugoslavia and Albania. Yugoslavia places right in the middle, during 1965-76 performing about the same as Hungary. During 1965-70 Albania claims to have grown roughly on a par with Romania and Bulgaria, but its growth slowed during 1970-75 and its performance was roughly on par with that of Hungary. To be sure, Albania's exceptionally poor and incomplete statistics and the absence of a Western recalculation undermines our confidence in the data and makes it particularly difficult to compare its performance with those of other countries.

#### PER CAPITA GROWTH PERFORMANCE

Population growth figures are presented in Table 3. The eight East European countries divide into four groups. At one end of the spectrum stands Albania where the annual population increment is about 2.5 percent—an extremely high rate even by world standards—reducing Albania's growth rates on a per capita basis by at least 1.5 percent vis-a-vis every other East European country. At the other end is East Germany, whose population continues to decline by about one-quarter of one percent per annum, raising its per capita performance slightly. Registering small population increases (in the one-third to two-thirds of one percent per annum range) are Bulgaria, Czechoslovakia, and Hungary. In the one percent per annum growth range are Romania, Poland, and Yugoslavia.

TABLE 3.—INDEX OF POPULATION GROWTH IN THE EAST EUROPEAN COUNTRIES, 1960-76

(Average annual percent change)

Period	Bulgaria	Czechoslovakia	GDR	Hungary	Poland	Romania	Yugoslavia	Albania
1965-70	0.70	0.28	0.04	0.36	0.80	1.28	1.04	2.80
1970-75	.56	.65	-.24	.39	.91	1.00	1.95	2.50
1975-76	.38	.86	-.30	.48	.92	1.00	1.95	2.50

<sup>1</sup> 1970-74.

<sup>2</sup> 1970-73.

\* Assumed to be the same as 1970-74.

† Assumed to be the same as 1970-73.

Source: Bulgaria through Romania, 1965-70: Paul F. Myers, "Population and Labor Force in Eastern Europe," in Reorientation, table 1; 1970-75 and 1976: T. P. Alton, "Comparative Structure \* \* \*," table 1; Yugoslavia: Statisticki Godisnjak jugoslavije" (Belgrade), various annual issues; Albania: compound growth rates calculated on the basis of population data presented in contribution in this volume by M. Kaser and A. Schnytzer, pt. 1, table 1-4.

Comparing growth performance in the 1970s on a per capita basis and taking into account plan projections to 1980 would change the relative position of Albania, moving it down among the relatively slow-growing countries; and of the GDR, moving it slightly ahead of Czechoslovakia on the NMP, and also of Hungary, on GNP basis.

#### IV. SOURCES OF GROWTH

##### A. Capital and Labor Inputs and Productivity

Attempting to make some statistically reasonable comparisons among countries on how much of their growth—and differences in their rates of growth—might be explained by differences in the growth

of factor inputs—labor and capital—and productivity has been an exercise in frustration. Our frustration, caused by practically insurmountable statistical difficulties, deepened when we attempted to comparatively identify the sources of growth of inputs. In the case of employment, growth can come from demographic factors, changes in participation rates, shifting labor from less productive to more productive sectors (principally from agriculture to industry) and a net inflow across national borders.<sup>15</sup> In the case of capital, growth can come from domestic sources—the crucial variables being the size of the existing capital stock, the share of national income devoted to accumulation, and depreciation—or net foreign borrowing.

Little systematic statistical information of this sort is available for Albania. For most other countries, not enough detailed statistics are available to disaggregate the data into their needed components. Even countries that publish detailed data have gaps in coverage and poor quality data. Moreover, the definitions and methodologies of calculation are not standardized among the countries, so that in most cases meaningful statistical comparisons cannot be made. This is why, even for a given country, alternative estimates often differ widely, depending on the (often unstated) definitions, the relative prices used as weights, and so on.

The greatest difficulty arises when estimating capital inputs; but even simple labor statistics are not immune from inconsistencies and comparability problems.

These caveats notwithstanding, the following broad generalizations seem to emerge from the available statistics.<sup>16</sup>

1. Increase in total employment since 1960 has been under 2 percent per annum in every East European country in each 5-year period, except as noted below; hence, employment growth has not been a dominant growth factor in most countries. The exceptions are:

(a) Poland, where total employment has increased by 2 percent or more since 1960, arising from a combination of demographic factors, increased participation rates in agriculture, and the movement of younger people from agriculture to industry and construction;

(b) Albania, for which no information is available, but fast employment growth can be deduced from the exceptionally rapid increase in population (Table 3) and the rapid rise in the labor participation rates of women, mentioned by Kaser and Schnytzer in their study in this volume; and

(c) Yugoslavia, where during 1971-75, a combination of the rapid increase in the labor supply and government policy had created substantial new domestic employment. This recent situation contrasts with the 1965-70 period when labor supply also increased rapidly (by about 5 percent per annum) but employment in the social sector grew by less than 1 percent per year. This caused a large number of Yugoslavs to seek employment outside the country (emigration provided twice as many new jobs as domestic employment) or become unemployed.<sup>17</sup>

<sup>15</sup> On the last point, see F. Levcik, "Migration and Employment of Foreign Workers in the COMECON Countries and Their Problems," in this volume.

<sup>16</sup> In addition to the individual country studies, the reader is referred to T. P. Alton, "Comparative Structure," Table 22 on labor inputs, Table 21 on capital inputs, and Table 5 on accumulation as percent of distributed national income.

<sup>17</sup> L. Tyson's contribution in this volume, pp. 941-996.

2. In all countries achieving a high rate of growth of output, industrial employment increased rapidly, in many cases between 3 and 6 percent per annum. Much of the increase was provided by declining agricultural employment.<sup>18</sup>

3. In all countries achieving a high growth of output, accumulation as percent of distributed national income (DNI) was high, rising to 30 percent or more by the early 1970's, or sooner. In the relatively slow-growing countries, accumulation as percent of DNI remained below 30 percent. The lowest share was revealed by the GDR, which needs to maintain consumption growth because of the politically sensitive competitive pressure it faces from West Germany in this regard.

It must be stressed, however, that comparisons of national income shares devoted to accumulation vs. consumption are notoriously problematic. Each country-study author approached the data problems and the analysis of growth sources differently.<sup>19</sup>

For Romania, Jackson provides a particularly good discussion of the difficulties of identifying the amount, share, and sources of investment in that country (see his Tables 7 through 11 and the related text discussion). He concludes that the high rates of growth achieved in the 1970s were based on a rapid growth of capital—made possible by holding down domestic consumption—and large transfers of labor from agriculture to industry.

For Bulgaria, Allen offers an interesting analysis by plan periods since 1948 of how various factors of production contributed to growth in the "nonagricultural sectors of material production." He attempts to separate out sources of extensive growth—growth in factor inputs and reallocation of these inputs from less to more productive sectors—and intensive growth—increase in productivity (see his Section 2). Because his analysis is based on a particular definition of the economy, data are not directly comparable with those presented by Alton in his (previously cited) contribution. Allen concludes that there has been a gradual shift from extensive to intensive application of labor, while at the same time the productivity of capital has steadily declined. Since 1960, two-thirds of the increase in capital stock has been devoted to increase the amount of capital per worker. That there has been a significant overinvestment is a definite possibility. If so, the marginal productivity of investment is very small or even negative. The chief problem may be that the workforce is not capable of assimilating higher levels of technology introduced at such a fast rate.

For Poland, one finds that whichever set of statistics on growth of investment or capital stock is chosen, the high growth rate of the economy since 1971 can be attributed mainly to an investment boom, associated with large increases in nonagricultural employment. Fallenbuchl shows that the average rates of growth of both accumulation and fixed capital investment in 1971–75 were the highest since 1950 (his Table II) and that, despite the serious neglect of infrastructure in the past, the proportion of total investment allocated to

<sup>18</sup> For Poland, this is not obvious from the aggregate statistics which do not show the increased participation rates in agriculture.

<sup>19</sup> The discussion below by country focuses only on selected issues of capital and labor inputs and the measurements of productivity; credits and changes in terms of trade are discussed in Sections B and C, respectively.

so-called non-productive investments declined during this recent period. Fallenbuchl sums up the Polish experience with regard to factor inputs:

In its overall rate of investment and in the structure of investment allocations among the major sectors of the economy, this was just another orthodox Stalinist investment drive, undertaken within the basically orthodox system of central planning and management.<sup>20</sup>

He offers a most interesting insight as to how the investment boom got out of control:

The excessively high rate of investment happened not because of an increased degree of autonomy of economic organizations [the reason Portes gives for the large fluctuations of investment in Hungary], but because there was a general expansionary attitude at all levels of the administrative structure \* \* \*. There also seemed to appear a tendency for \* \* \* a "multi-center direction of the economy," with the Central Planning Commission, the Central Committee and the Presidium of the Council of Ministers each making its own decision in response to different pressures from local party and state authorities, the industrial branch ministries, and lobbying by various managers of economic organizations. [Everyone attempted] to "hook on to the plan," \* \* \* on the basis of unrealistically low estimates [of investment costs], knowing well that once the project is included in the plan, it will subsequently receive all that is needed for its completion.<sup>21</sup>

And as to how this investment boom was financed, Fallenbuchl points out that while earlier excessive investment drives collapsed within two or three years, this drive could last longer because foreign capital was imported on credit, and on a very large scale.

For Hungary, Portes calls attention to the difficulty of getting a good handle on the relative importance of capital formation in total resource use. He points out that the share of capital formation appears substantially higher in the GNP accounts (Table 3) than in the NMP accounts (Table 2). He concludes that since capital stock in industry grew at 8 percent and industrial labor force only 1 percent per annum, any reasonable weighting system would give a fairly health growth rate of total factor productivity in industry. He also notes the fairly wide fluctuations over time in investment around a rising trend, which he attributes to the large role played by enterprises in initiating, but not necessarily financing investment projects.

For Czechoslovakia, Holesovsky stresses how difficult it is to estimate the share of GNP or NMP devoted to investment. He presents a wide range of alternative estimates and points out that the data provided by the statistics of some East European countries understate the investment shares because their market prices understate the value of producer goods as compared with more realistic valuation based on factor costs. He also stresses the low marginal efficiency of capital in Czechoslovakia, "due to a combination of a slow infusion of technical progress embodied in new producer goods, and systemic disabilities concerning effective utilization of new productive assets; independently of their quality" (p. 705).

For the GDR, Keren stresses that the increased output was achieved without any growth in labor input. Based on the increase in capital stock—estimated by Keren to have been 5 percent per annum during 1965—and 6 percent during 1970–75—the author estimates the rise in factor productivity under various assumptions (Table 8).

<sup>20</sup> Fallenbuchl, "The Polish Economy in the 1970s," in this volume, p. 850.

<sup>21</sup> *Ibid.*, pp. 850–851.

### B. Foreign Borrowing and Lending

A country able to borrow needed resources from abroad has access to a source of growth to supplement its domestic efforts. If a country lends abroad, this reduces the resources available to finance domestic consumption or investment; hence, it represents a negative source of growth.

All East European countries except Albania have recently become net borrowers from the West.<sup>22</sup> Since 1961, Albania has been a large borrower—or grantee—from the People's Republic of China. The six East European members of the CMEA are net lenders to the East, principally to the USSR, through their participation in so-called CMEA joint investment projects. (Periodically, the USSR also makes large loans to individual East European countries.) They also run trade surpluses with the less developed socialist countries, principally Mongolia and Cuba, participating in what might be called intra-socialist foreign aid programs. The East European countries occasionally also invest in projects located on the territory of an East European partner; but intra-East European credit flows are small and hence can be disregarded. Finally, several East European countries extend credits to finance the sale of their machinery exports to less developed countries.

#### HARD-CURRENCY BORROWING FROM THE WEST AND THE SPECIAL CASE OF ALBANIAN CREDITS FROM CHINA

An excellent contribution in this volume summarizes the known facts about the six East European countries' net indebtedness to the West.<sup>23</sup> Each country study adds important details on the reasons for and pattern of borrowing and the repayment burden that has been created. Our purpose here is to establish the relative importance of borrowed resources as a factor contributing to the growth performance of these countries and to include in the comparative assessment Yugoslavia's indebtedness to the industrial West and Albania's net borrowing position vis-a-vis all countries since 1961, principally the PRC. Although Albania's borrowing has not been predominantly in hard currency, its inclusion in the comparison is appropriate because the resources it obtained came from outside the region. The fact that much of the credit it has received may have been (or will be) forgiven, whereas the rest of East Europe will repay what it has borrowed, is an important distinction when considering the burden of indebtedness but not its contribution to growth, in the short run.<sup>24</sup>

<sup>22</sup> For a comprehensive survey of the Western perspective on lending money to centrally planned economies, see Paul Marer (ed.), "U.S. Financing of East-West Trade: The Political Economy of Government Credits and the National Interest" (Bloomington, IN: International Development Institute and Indiana University Press, 1975).

<sup>23</sup> J. C. Zoeter, "Eastern Europe: The Growing Hard Currency Debt." Net indebtedness is gross indebtedness less deposits in banks located in the West.

<sup>24</sup> In judging how much additional resources an increase in indebtedness provides, interest charges paid on the debt should be subtracted. If Albania pays no interest or obtains a subsidized rate, then the contribution of borrowed resources will be greater to its economy than those East Europe obtains from the West. However, the fact that all of Albania's borrowings have been tied to specific goods offered by the lender, whereas only some of East Europe's borrowings have been tied, is an offsetting consideration. (In the case of East Europe, credit, when tied, is not to specific goods but to any supplier in the lender's country, which is a less severe constraint than that faced by Albania.)

To compare the relative importance of borrowed resources for the East European economies, Table 4 juxtaposes the increase in indebtedness with the increment of the same country's GNP during the same period, both expressed in current U.S. dollars. 1967 was chosen as the base year because before then borrowing from the West was not on a significant scale. 1972 and 1975 were selected as years dividing the subperiods because the indebtedness position of some countries changed considerably and current dollar GNP estimates were available.

TABLE 4.—THE CONTRIBUTION OF HARD-CURRENCY DEBT TO ECONOMIC GROWTH, 1967-76

[Billions of current dollars and percent]

Country	1967-72 (5 yr) <sup>1</sup>			1972-75 (3 yr)			1975-76 (1 yr)			1967-76 (9 yr)		
	ΔDebt (A)	ΔGNP (B)	A/B (Percent)	ΔDebt (A)	ΔGNP (B)	A/B (Percent)	ΔDebt (A)	ΔGNP (B)	A/B (Percent)	ΔDebt (A)	ΔGNP (B)	A (Percent)
Bulgaria.....	0.3	4.6	7	1	6	17	0.5	1.9	26	1.7	12.6	13
Czechoslovakia.....	.1	12.5	1	.9	15.4	6	.6	3.8	16	1.6	31.7	5
GDR.....	.8	13.9	6	2.3	18.2	13	1	4.7	21	4.1	36.7	11
Hungary.....	.4	5.2	8	1.2	7.3	16	.6	1.6	37	2.2	14.2	15
Poland.....	0	20.4	-----	5.8	28.7	20	3.3	9.2	36	9.1	58.2	16
Romania.....	.9	13	7	1.4	14.4	10	.2	5.8	3	2.5	33.3	8
EE Six <sup>2</sup> .....	2.4	69.6	3	12.6	90	14	6.2	27.0	23	21.2	186.7	11
Yugoslavia <sup>3</sup> .....	1.9	7.1	27	2.3	18.4	13	.9	5.2	17	<sup>4</sup> 5.1	<sup>5</sup> 30.8	<sup>6</sup> 17
Albania.....	<sup>4</sup> .331	<sup>5</sup> .374	88	<sup>6</sup> .322	<sup>4</sup> .374	86	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	<sup>4</sup> 653	<sup>5</sup> 748	<sup>6</sup> 87

<sup>1</sup> From Dec. 31, 1967 until Dec. 31, 1972.<sup>2</sup> Weighted average.<sup>3</sup> Social product.<sup>4</sup> Not available.<sup>5</sup> 1967-75.<sup>6</sup> Cumulative import surplus, principally with the People's Republic of China.

Source: GNP in current dollars for the East Europe 6, 1967: T. P. Alton, "Defense Expenditures in Eastern Europe, 1965-1976," table I. Yugoslavia: "World Tables, 1976," (Baltimore: Johns Hopkins University Press), pp. 388-9; Albania: 1970 GNP in current dollars is calculated by Kaser and Schnytzer in their contribution in this volume, pt. I, p. 574 as \$748,000,000, I arbitrarily assumed that

1967 GNP in current dollars was 40 percent lower, 1972 GNP 25 percent higher, and 1975 GNP 40 percent higher than 1972.

Year-end hard-currency indebtedness of the East Europe 6 in 1967 is shown in E. Snell, "Eastern Europe's Trade and Payments With the Industrial West," in "Reorientation," tables 1-6; in 1972, 1975; and 1976 in J. C. Zoeter, "Eastern Europe: The Growing Hard-Currency Debt," tables 1 and 2; Yugoslavia: figures of \$1,900,000,000 at the end of 1970 and 5,600,000,000 at the end of 1975 are cited in Tyson; other years interpolated on the basis of information provided by experts at leading U.S. commercial banks. Albania: cumulative import surplus in 1966-70 of \$246,000,000 and in 1971-75 of \$492,000,000 is shown in M. Kaser's contribution (pt. III, p. 1327). In each period I assumed that the annual deficit grew by gradually rising amounts.

Ranking countries by the highest to the lowest ratio of increase in indebtedness to incremental GNP during 1967-76, we find that Albania is in a class by itself. The resources it was able to obtain abroad were of the same order of magnitude as the increments to its GNP. Albania's unique position in Eastern Europe is further strengthened if we consider that since World War II it has relied continuously on large infusions of foreign resources (whereas East Europe was not borrowing on a significant scale before the mid-1960s) and that a substantial portion of those resources were obtained, or became, grants rather than loans.

Focusing on the entire 1967-76 period, the remaining seven countries fall into two groups. The increase in debt was 10 percent or more of the increase in GNP in Yugoslavia (17 percent), Poland (16 percent), Hungary (15 percent), Bulgaria (13 percent) and the GDR (11 percent); and less than 10 percent in Romania (8 percent) and Czechoslovakia (5 percent). But if we focus on subperiods, the ratio of incremental debt to incremental GNP was much greater for particular countries than for the period as a whole. In 1976, for example, the ratio was almost one third in Bulgaria and more than one-third in Hungary and Poland, matching the similar high figures for Yugoslavia in the earlier periods.

The incremental debt/GNP ratios are influenced greatly by differences in economic performance among countries, depressing the ratios of fast-growing countries, such as Romania, and uplifting the ratios of relatively poor performers, such as the GDR. A more straightforward indicator of the relative importance of borrowed resources is the relationship between total indebtedness and total GNP (affected also by performance) and total indebtedness to total population (both shown in Table 5).

TABLE 5.—RATIO OF TOTAL INDEBTEDNESS TO TOTAL GNP AND TOTAL POPULATION, 1967, 1972, AND 1976  
[Percent and current dollars]

Country	Ratio of total indebtedness to GNP (percent)			Per capita indebtedness		
	1967	1972	1976	1967	1972	1976
Bulgaria.....	6	6	11	\$60	\$93	\$263
Czechoslovakia.....	2	2	4	35	41	141
GDR.....	2	3	7	41	88	286
Hungary.....	4	5	10	49	87	255
Poland.....	3	2	11	35	33	297
Romania.....	4	5	6	36	77	149
EE-6 <sup>1</sup> .....	3	3	8	40	62	237
Yugoslavia.....	15	20	<sup>2</sup> 16	50	149	<sup>2</sup> 300
Albania.....	41	60	<sup>2</sup> 68	118	251	<sup>2</sup> 365

<sup>1</sup> Weighted average.

<sup>2</sup> 1975.

Sources: GNP and debt: see table 4; population: see table 3.

By 1976, the total indebtedness equalled or exceeded 10 percent of GNP in all countries except the GDR (7 percent), Romania (6 percent), and Czechoslovakia (4 percent). On a per capita basis, the countries rank from most to least resources borrowed, as follows:

Albania.....	365
Yugoslavia.....	300
Poland.....	297
GDR.....	286
Bulgaria.....	263
Hungary.....	255
Romania.....	149
Czechoslovakia.....	141

#### CREDITS TO AND FROM THE USSR

Not enough information is available on East European trade with the USSR to establish the magnitude of the net flow of resources between the countries. Although trade balances can be determined on the basis of published Soviet or East European trade figures, lack of information on whether trade in military items is included, and differences among the CMEA countries in recording trade flows, make conclusions about the actual trade balance difficult to reach.<sup>25</sup> Moreover, even if the trade balance could be determined accurately, it would be difficult to estimate net resource transfers without a painstaking investigation of (1) the amount of investments East European countries have pledged to carry out in the USSR, and the USSR in Eastern Europe, and the scheduling of deliveries connected with these investments; (2) transactions connected with contributions to and receipt of credits from the CMEA Investment Bank; (3) the mechanism of settling with commodity deliveries net balances of invisible transactions and military items; and (4) switch trade, under which credit or debit balances with a CMEA partner are offset with debit or credit balances extant with third countries outside the CMEA area.

One of the most important (if not the most important) item determining resource transfers between the USSR and the six East European countries is East European participation in CMEA investment projects, the largest ones located in the USSR. East European investment in Soviet resource development is not new. But whereas during the late 1950's and 1960's these credits were typically small, bilateral and designed mainly to increase the capacity of existing projects, since the signing of the Comprehensive Program in 1971, there has been a dramatic increase in the size and number of these projects, and with multilateral participation (but not ownership). The largest and by far the most important project is the \$5 billion (initial cost estimate) Orenburg natural gas pipeline channeling gas from Soviet fields to Eastern Europe, scheduled to be completed in 1978. Each East European country except Romania agreed to build a section of the pipeline (Romania is providing only pipe and equipment), supplying labor and above-plan deliveries of equipment, technical services and the hard-currency with which to import the pipes and other machinery that must be purchased in the West.

The valuation of the individual countries' contribution to the project and the financing arrangements were not published. But it is known that early in 1976 the International Investment Bank (IIB) of the CMEA borrowed \$600 million on the Eurodollar market for the Orenburg project and provided these funds to the USSR which has

<sup>25</sup> Concepts of Soviet and East European trade reporting and analytical problems arising thereof are discussed in Paul Marer, "Soviet and East European Foreign Trade, 1946-1969: Statistical Compendium and Guide" (Bloomington, IN: Indiana University Press, 1972), Appendices A through F.

made purchases, largely of pipe, for the entire project. The East Europeans owe the IIB for their share of the Soviet hard-currency purchases and, according to IIB rules, must repay in hard currency at world market rates of interest. However, this credit covers less than half of the cost of the 2 million tons of large-diameter pipes (estimated cost \$1.5 billion), and there is equipment (such as compressor stations) that are also being purchased from the West. So either the IIB will take up other major credit or the East European countries themselves will have to provide hard currency for the centralized purchase of pipes and equipment.<sup>26</sup>

As Haberstrah reports in his contribution in this volume, the Soviets are probably disappointed with the East European contribution to this project up to now. Due to shortages of both hard currency and technical services plus labor skilled in pipeline construction, each country has already reduced its commitment and, except in the case of Poland, much of the actual pipeline construction will be done by the Soviets themselves. Hungarian economists, however, stress that not a reduction but a transformation in the individual country's commitment has been taking place lately. Hungary and some other East European countries are finding that rising national currency costs and lack of specialization in certain tasks, such as the laying of pipelines, which each country was supposed to perform in the USSR, makes it more attractive (1) to commission other countries to perform some of the installation (in the case of Hungary, Poland will help out)—since the initial contract provides that the signatory countries can redistribute the scope of the tasks among themselves; and (2) to increase the share of the country's hard-currency contribution to the USSR in fulfillment of its obligation to the project.<sup>27</sup>

The reader is referred to Snell's interesting calculations (in this volume) of East Europe's projected 1976-80 balance of payments with the USSR. He shows that the East European countries, excluding Hungary, plan to run an approximately \$9 billion trade surplus, at 1975 CMEA trade prices, with the USSR. This is explained by participation in joint projects in the USSR, deterioration in their terms of trade, and (more speculatively) payment for military hardware. The largest surpluses are projected for Poland and the GDR (\$3.3 billion each), followed by Romania (\$1.3 billion), Bulgaria (\$0.9 billion), and Czechoslovakia (\$0.3 billion).<sup>28</sup> Hungary is the only European CMEA country that expects to run a large, cca \$2 billion trade deficit with the USSR. This almost certainly reflects the yet unpublicized large credits the Soviet Union granted to Hungary, payable in the 1980s, to help smooth that country's adjustment to the energy crisis.

<sup>26</sup> J. Bethkenhagen, "Joint Energy Projects and Their Influence on Future COMECON Energy Autarchy Ambitions," paper presented at the NATO Colloquium on COMECON Integration, Brussels, March 16-18, 1977.

<sup>27</sup> Personal interview with Hungarian and Polish economists, April, 1977. One may wonder which of the following forms does the so-called hard-currency contributions take: (1) cash; (2) transshipment of goods purchased in Western countries; or (3) so-called "dollar-price-settlement" exports, i.e., goods produced in Hungary and sold "above plan" on the CMEA market at current world prices (see discussion below). Our guess is that it takes mainly this last form.

<sup>28</sup> Snell, "East European Economies," Table 10, related discussion in the text, and Appendix F. The low figure for Czechoslovakia may be partly explained by the country building on its own territory a gas pipeline to transport Soviet gas to Western Europe, a contribution to the Soviet Union which will not show up in trade statistics. Moreover, in 1966 Czechoslovakia supplied to the USSR on credit \$550 million in pipes and machinery in return for 60 million tons of oil to be shipped during 1971-80.

An adjustment downward of East European credits to the USSR from planned 1976-80 levels may be agreed to by the USSR. This already occurred in November 1976 when a low-interest, \$1.3 billion loan by the Soviets to Poland was reportedly agreed upon, comprised of above-plan deliveries during 1977-80 of raw materials, food, and machinery.<sup>29</sup>

In commerce between two countries, aid can be given (or a grant extracted) by trading at prices which deviate, on balance, from opportunity costs on the world market. Arising from the special pricing system in effect on the CMEA market, under which historical rather than current world market prices are used, during 1971-74 the Soviet Union's terms of trade with Eastern Europe gradually deteriorated by an estimated 30 to 40 percent below the levels which would have prevailed if Soviet-East European prices had moved in conformity with changes in world prices.<sup>30</sup> Almost all of this "grant" was accounted for by not following immediately the dramatic rise of oil prices on the world market. This benefited the five oil importing countries, Romania not among them. The 1975 doubling of oil prices to Eastern Europe still permitted the five to buy energy cheaper from the Soviet Union than from the world market.<sup>31</sup>

To conclude: in terms of trade flows for Eastern Europe, commerce with the Soviet Union is of the same order of magnitude as commerce with the industrial West (much larger for Bulgaria and much smaller for Romania). But while the direction and approximate order of magnitude of net resource transfers from the industrial West to Eastern Europe can be unambiguously ascertained, the situation in East Europe-Soviet relations is much more complicated, and quantification is much more difficult. On balance, however, during 1970-76 the East European countries appear to have benefited from a net resource transfer from the USSR, if their trade relationship is viewed in a static rather than dynamic setting. (That is, static gains from trade that arise from net resource transfer would have to be juxtaposed with dynamic losses that arise from the benefits forgone if a preferential or "sheltered" Soviet, and CMEA, market absorbs over a long period poor-quality goods and obsolete equipment, thereby reducing the incentive to innovate and produce for the market.) But during 1976-80, the resource transfer will almost certainly be in the other direction, the main reasons being a deterioration in the terms of trade (see below) and investing in the joint projects.

#### CREDITS TO LESS DEVELOPED COUNTRIES

It is believed that all East European countries except Albania regularly extend sizable credits to less developed countries (LDCs) to finance machinery exports. For some East European countries, these credits are reflected in the trade surplus that is reported or can

<sup>29</sup> David Lascelles, "Soviet Aid Package for Poland Includes \$1.3 Billion Loan," *Financial Times*, November 20, 1976, as cited in G. R. Teske, "Poland's Trade with the Developed West: Performance and Prospects," in this volume, Section IV-B. The USSR also allowed the GDR to run up a sizable, presumably unplanned, deficit in 1975 (Keren, p. 722).

<sup>30</sup> Martin Kohn, "Developments in Soviet-Eastern European Terms of Trade, 1971-75," in "Soviet Economy in a New Perspective" (Washington, D.C., Joint Economic Committee of the U.S., 1976), pp 75-76.

<sup>31</sup> The broad economic and political context in which Soviet decisions are made on the prices and quantities of goods traded with Eastern Europe are discussed in Paul Marer, "Has Eastern Europe Become a Liability to the Soviet Union—The Economic Aspects," in Charles Gati (ed.), "The International Politics of Eastern Europe" (New York: Praeger, 1976).

be calculated. But even East European countries that show a deficit with LDCs give sizable, low-interest credits. Deficits may arise as earlier credits are repaid by the LDC debtors or because LDCs supply raw materials and energy to East Europe, often for hard currency.

Bulgaria is shown to be running a trade surplus with LDCs, about 600 million devisa-leva (SDR 513m) cumulatively during 1970-75 (Allen, Table 13). Czechoslovakia has been one of the large creditors and machinery suppliers to LDCs since the 1950s; during 1970-75 achieving a 5 billion devisa-crown (SDR 694m) surplus with the Third World (Holesovsky, Table 3). The GDR had a surplus until 1973, which turned into a sizable deficit during 1974-75, possibly explained by new Middle Eastern sources or higher prices for energy (Keren, Table 13). Hungary had a small deficit with LDCs during much of the 1970s (Portes, Table 26), while Poland ran a deficit of 2.1 billion devisa zloty (SDR 525m) during 1970-75 (Fallenbuchl, Table XIII).

Romania presents a very interesting case. Montias shows that Romania ran large surpluses throughout the 1960's and early 1970's. He argues that—

Because exports of manufactures to LDCs must be lubricated with credits and because repayment is generally tied to bilateral accounts, the possibilities open to Romania of solving her trade and payments problems via exchanges with LDCs would seem to be limited (Montias, p. 874).

Jackson, in his contribution on Romania, calls attention to a new Romanian strategy to import directly from LDCs commodities which have been purchased through Western intermediaries and to pay with manufactures exports, technical assistance, and construction services (pp. 889-890). Thus, while Romania may not be able to generate substantial hard currency via an export surplus with LDCs, which is Montias' point, it may be able to save hard currency by redirecting purchases from Western intermediaries to LDC producers, which is Jackson's point. Romania apparently has had success with that policy: the share of LDCs in Romania's total trade increased from 9 percent in 1973 to 19.5 percent in 1975, with extraordinary further increases to 25 percent by 1977-78 and a projected 30 percent (!) by 1980 (Jackson, p. 912).<sup>32</sup>

Yugoslavia pursues a policy vis-a-vis LDCs quite similar to the rest of Eastern Europe. Even though its trade with LDCs has been in deficit, most likely because of the oil it imports from Middle East countries, it has been pursuing "preferential credit policies and long-term cooperation agreements to promote exports and preferential tariffs to promote imports" (Tyson, p. 986).

In conclusion, although it is difficult to determine the magnitude of credits (usually at very low interest rates) the individual East European countries have extended to promote exports to LDCs, the policy appears to have been practiced widely and will probably gain further momentum for economic as well as political reasons.

### *C. Terms of Trade*

Implicit in our discussion on foreign borrowing and lending was the assumption that (a) an increase in East Europe's indebtedness provides additional resources for growth, and (b) credits granted

<sup>32</sup> It is possible that some of this increase reflects mere bookkeeping, such as moving from a "country of purchase and sale" reporting system to a "country of origin-destination" system. This is implied by the Ceausescu quote cited by Jackson in his footnote 27.

by East Europe reduce the amount of resources that can be harnessed for development, at least in the short run. This assumption needs to be modified; only by considering changes in a country's terms of trade can we determine, for example, whether foreign borrowing has provided additional resources or whether it was needed simply to cover the higher price of imports which remain uncompensated by the higher price of exports.

#### TOTAL TRADE

Export and import price indices and terms of trade for 1970-75 have been published or can be derived for five East European countries (see Table 6).

TABLE 6.—EXPORT AND IMPORT PRICE INDICES AND TERMS OF TRADE OF 5 EAST EUROPEAN COUNTRIES, 1970-75  
[1970 equals 100]

Year	Bulgaria			GDR			Hungary			Poland			Yugoslavia		
	X	M	TT	X	M	TT	X	M	TT	X	M	TT	X	M	TT
1970	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1971	100.8	102.3	98.6	100.5	100.7	99.8	100.3	101.7	98.6	102.4	98.2	104.3	105.3	103.8	101.4
1972	100.4	100.8	99.6	100.9	101.9	99.7	101.9	104.1	97.9	103.8	97.8	106.2	110.6	111.5	99.2
1973	103.4	104.3	99.2	102.6	108.2	94.8	107.0	110.7	96.6	109.8	106.4	103.1	133.3	130.7	102.0
1974	110.9	113.1	98.1	110.1	122.2	90.1	115.3	128.9	89.4	127.8	124.4	102.6	175.5	192.2	91.3
1975	120.5	125.3	96.2	117.8	136.3	86.4	122.3	147.2	83.1	146.0	141.8	102.8	191.3	201.8	94.8

Sources: Bulgaria: M. Allen's contribution, table 11, converted from 1960 to 1970 base; GDR: M. Kerén's contribution, table 12; Hungary: "Külkereskedelmi Statisztikai Évkönyv" (Budapest: Central Statistical Office, 1976), p. 411; Poland: Z. Fallenbuchl, et al., "East European Reactions to International Commodity Inflation," essay in this volume, table 1, converted from annual percentage change to 1970 base; Yugoslavia: op. cit., table XXII, converted from annual percentage change to 1970 base.



Two slightly different price and terms of trade indices are shown for Hungary under each of the two main headings: one calculated on the basis of country of export and import (called socialist vs. nonsocialist trade), the other on the basis of the settlement price (currency?) used (called ruble vs. dollar settlement trade). The difference is that a certain portion of trade with CMEA partners—usually comprised of above-plan “hard good” exports and imports—is priced according to current world market prices. This commerce is included under “socialist” but excluded from “ruble-settlement” trade.<sup>34</sup> The suggested estimation procedure is outlined in the Appendix and illustrated with data for 1975.

Table 7 reveals that between 1972 and 1975, in trade with socialist countries Hungary's export prices rose by 17 to 19 percent while its import prices increased by 32 to 39 percent, resulting in a deterioration in its terms of trade by 12 to 15 percent (depending on whether or not dollar-priced trade is excluded). Since the commodity composition of GDR and Czechoslovak trade with the socialist countries is not too different from that of Hungary, one may reasonably speculate that their terms of trade would also be comparable. Poland, on the other hand, is in a much better situation: since it is both an exporter and importer of energy and raw materials, its terms of trade with all socialist countries as a group did not change much. The terms of trade of Romania, which neither imports nor exports energy in trade with its socialist partners, probably did not change very much either. Bulgaria's terms of trade vis-a-vis socialist countries probably falls between that of Hungary and Poland.<sup>35</sup>

In trade with nonsocialist countries, during 1972-75, Hungary's terms of trade deteriorated by about 20 percent while Poland's improved (with the industrial West only) by more than 20 percent, thanks to coal which made up 30 percent of Poland's hard-currency exports in 1975.<sup>36</sup> The terms of trade of the other East European countries would be influenced greatly by the commodity composition of their exports to the West: the larger the proportion comprised of fuels (SITC 3) and other primary products (SITC 0+1+2+4), the more they were helped, or the less hurt, by developments during 1972-75 on the world market. Based on data compiled by Wolf, the 1975 compositions of East European countries' exports to the twelve main West European countries were as follows:<sup>37</sup>

	Fuels (percent)	Primary products	Manufactures	1975 terms of trade (1970=100)
Poland.....	37.0	25.0	38.0	122.5
Romania.....	20.8	28.3	50.8	(100.0)
Czechoslovakia.....	14.3	20.3	65.4	(90.0)
German Democratic Republic.....	6.8	23.2	70.0	(80.0)
Hungary.....	2.1	43.1	54.8	(80.0)
Bulgaria.....	1.9	48.2	49.9	(80.0)

<sup>1</sup> Average of “nonsocialist” and “dollar-price settlement” trade.

<sup>34</sup> There is some question whether socialist “dollar” trade is only priced at current world prices or is also settled through hard-currency payments.

<sup>35</sup> This speculation is consistent with Bulgaria's terms of trade indices in its total trade (see Table 6).

<sup>36</sup> See contribution in this volume by Teske, Appendix A.

<sup>37</sup> Thomas A. Wolf, “East-West European Trade Relations,” in this volume, Table 3. The structure of imports also affects the terms of trade, but the composition of East European imports is more similar than exports.

Shown in parentheses in the last column are my rough estimates of the terms of trade of the five East European countries for which data are not available. The estimates are based on the commodity composition of these countries' exports to Western Europe and the terms of trade indices of Poland and Hungary.

With respect to nonsocialist trade, the tentative conclusion is that Poland was the only East European country that obtained resources from the West; not only through borrowing large amounts but through an improvement in its terms of trade. Romania was probably neither hurt nor benefited much in its Western trade from price developments on the world market, but the other four countries had to devote a significant part of the resources borrowed from the West to maintain the real volume of their imports in the face of deteriorating price relations. Moreover, it seems that the same countries that were most hurt by price developments in their trade with the West were also adversely affected in their trade with socialist countries, although the brunt of the impact has been delayed by a few years. Most important, of course, is the terms of trade with the USSR, to which we turn next.

#### TRADE WITH THE USSR

During 1970-74, Soviet-East European terms of trade did not change significantly.<sup>38</sup> Soviet crude oil to Eastern Europe in 1974, for example, was under \$20/ton, or about one-quarter of the world price. In January 1975, one year before the expiration of the fixed CMEA price agreement, the Soviet Union nearly doubled oil prices to CMEA, providing substantial additional income to the USSR: 1.4 billion transferable rubles (almost \$2 billion) equal to total Soviet imports from Hungary in 1975. In that year, energy accounted for 25 percent of Soviet export proceeds from Eastern Europe.

Based on detailed but not fully specified quantity and value data published by the USSR, two experts independently calculated changes in Soviet-East European terms of trade from 1974 to 1975 (see Table 8).

TABLE 8.—SOVIET EXPORT AND IMPORT PRICE INDICES AND TERMS OF TRADE WITH 6 EAST EUROPEAN COUNTRIES, 1975

[1974=100]

Partner country	Soviet export prices			Soviet import prices			Terms of trade		
	1974 weights	1975 weights		1974 weights	1975 weights		1974 weights	1975 weights	
		A	B		A	B		A	B
Bulgaria	139	156	137	130	137	126	107	112	109
Czechoslovakia	142	144	139	123	121	119	115	119	117
German Democratic Republic	147	154	143	121	125	122	121	125	117
Hungary	140	150	140	126	129	124	110	116	113
Poland	141	151	141	139	144	136	102	104	104
Romania	134	143	131	132	138	127	102	105	103
6 countries combined	142	151	140	128	132	126	111	114	111

Sources: 1974 weights and 1975 column A: M. J. Kohn and N. R. Lang, "The Intra-CMEA" table 1; column B: Raimund Dietz, "Terms of Trade im sowjetischen Aussenhandel gegenüber den RGW-Ländern in Osteuropa" (tentative title) (Vienna Austria: Wiener Institut für Internationale Wirtschaftsvergleiche, 1977, forthcoming).

<sup>38</sup> Martin Kohn, "Developments."

Depending upon the choice of weights and the small differences in methodologies used, in 1975 East Europe's terms of trade deteriorated vis-a-vis the USSR by 11 to 14 percent,<sup>39</sup> with the largest loss suffered by the GDR, Czechoslovakia, and Hungary, somewhat smaller for Bulgaria, and only 3 to 4 percent for Poland and Romania. Thus, Soviet terms of trade calculated from Soviet data are fully consistent with the indices computed for Hungary and Poland and the speculative estimates made for trade terms with socialist countries on the basis of findings for these two countries.

Kohn and Lang calculated that the negative impact of deteriorating terms of trade with USSR in 1975 in effect forced the four most seriously affected countries to give up resources by amounts equivalent to roughly 1 percent of GNP for the GDR, Hungary and Bulgaria, and over 0.5 percent of GNP for Czechoslovakia (p. 142).

Further increases in oil prices during 1976 were moderate: but in 1977, 1978, and 1979 substantial further increases can be expected. This is because of the new system of setting intra-CMEA prices on the basis of moving-average world market prices. According to the new price rules reportedly agreed upon, 1975 prices were based on a three-year (1972-74) world average, changed to a five-year world average in 1976 (1971-75). Thus, 1977 prices will be based on 1972-76 world prices, 1978 prices on 1973-77 world prices, and so on. Applying this price-setting system to past and prospective future world prices of oil, in 1977 and 1978 the East European countries will have to pay about 25 percent each year and in 1979 about 20 percent more than during each previous year. By 1980, the price level may be stabilized.<sup>40</sup>

#### *D. In Lieu of Conclusions*

Probably no other country in East Europe is more adversely affected by a combination of worsening price developments, the investment participation required in the USSR, and the hard-currency debt service burden than the GDR. Therefore, Keren's reasoning and quantification of what these developments signal for East Germany in terms of growth prospects is of particular interest, for the methodology which is applicable to the other East European countries as well as the specific figures he derives:

In 1970 \* \* \* the share of exports and imports was about 31 percent each of NMP. [But by 1975, the deterioration in the terms of trade meant] that to balance imports quantity-wise, exports would have to rise by another 15 percent \* \* \* nearly 5 percent of NMP, nearly 4 percent of GNP.

Without any other changes in the price level on Western markets, we know that prices on CMEA markets are going to adjust to the present Western prices by the end of the decade. Assuming that the total deterioration in the terms of trade will amount to 20 percent, the damage by 1980 will be [a further more than] 6 percent of NMP if the ratio of imports in NMP does not change. [But if] foreign trade continues to increase at a rate 60 percent faster than NMP, and NMP rises by 26 percent [as planned] by 1980, imports should rise by over 40 percent to some 35 percent of NMP, and the damage in terms of growth of exports will amount to 7 percent of the 1980 NMP.

[But] balancing accounts in 1980 is not sufficient. Assuming that (1) the GDR leadership wants debts [to the West] to remain at their present [1975] level in 1980, and that only additional deficits amassed during the first two years of the present

<sup>39</sup> Actually, the percent deterioration for East Europe is slightly less than the percentage improvement for the USSR. If Soviet export price indices are assumed to be East European import price indices, etc., then the deterioration in East Europe's terms of trade would be 10%, 13%, and 10% in the 1974 weights and 1975 A and B columns, respectively.

<sup>40</sup> J. Bethkenhagen, "Joint Energy \* \* \*."

FYP are to be repaid during the final two years; and (2) participation [by the GDR in projects in the USSR] of 8 billion Marks over the 1976-80 FYP at annual rates and \* \* \* sum up all the increases [required] in exports: 7 percent to balance trade at the [worsened] terms of trade, 2 percent to keep the deficit at the present level, and 1 percent for investment in CMEA, altogether 10 percent of 1980 NMP will be used up by increased exports. Any smaller room for increasing the export surplus means an increase in indebtedness; any larger share, a reduction of indebtedness [pp. 744-746].

## V. ECONOMIC STRATEGIES, SYSTEMS, AND POLICIES

To provide an overview for the eight East European countries on these issues, the task is more manageable and the comparisons more meaningful if the countries are divided into two groups: the Southern Tier, comprised of the Balkan countries of Bulgaria, Romania, Yugoslavia, and Albania, which on the basis of official statistics, have been growing more rapidly than the rest of Eastern Europe (except Poland), and the Northern Tier, comprised of the more highly developed but still very diverse nations located to the north of the Balkans, the GDR, Czechoslovakia, Hungary, and Poland.

Findings for the four Balkan countries are discussed comparatively and in some detail. But only a shorter summary, highlighting particular issues, is made for the Northern Tier countries because: (1) the basic facts about the economic systems, strategies, and policies of these countries are better known than those of the Balkan countries; (2) partly for this reason, the contributions on these countries tend to be shorter, so there is less need to provide a guide to the issues; and (3) the four northern countries are analyzed in numerous studies included in the other sections of this volume, while at least two of the Balkan countries, Yugoslavia and Albania, tend not to be discussed in these studies.

### *A. Southern Tier (Balkan) Countries*

#### BROAD ECONOMIC STRATEGY

Bulgaria, Romania, Yugoslavia, and Albania share the Balkan historical region (along with Greece), and have in common the fact of economic backwardness and foreign domination before World War II. Although the economic system and political orientation of Yugoslavia are quite different from the rest of Eastern Europe, "it seems useful to examine Yugoslavia within the East European context because the Yugoslav system has grown out of East European roots, and consequently, represents a possible path for further socialist transformation within the [region]" (Tyson, p. 941).

Yugoslavia and Albania are very similar in one respect: both had continuous leadership since the war. Tito in Yugoslavia and Hoxha in Albania came to power as leaders of a liberating army and initially without Soviet backing.

Three of the four countries have quarrelled with Moscow; the fourth country, Bulgaria, has been consistently one of its staunchest allies. The common denominator of the economic systems, strategies, and policies of the first three countries has been a quest for and preservation of independence. In the case of Yugoslavia, this is so well known that it would be superfluous to document it. In the case of Romania, the political aspects are well known, but spelling out its economic

policy implications is one of the important contributions of Jackson's essay. And in the case of Albania, Kaser and Schnytzer make the case that pursuit of independence has been the catalyst which explains Albania's domestic and foreign economic policy since World War II.

Perhaps the single key to Romanian policy since the 1950s, argues Jackson, has been the pursuit of independence under constraints. Since the leadership believes that a backward, unindustrialized country has no hope for independence, the first priority has been and remains rapid industrialization. The Romanians recognize, however, that industrialization breeds new threats to independence if countries supplying raw materials, capital, and technology and providing markets impose conditions which may hinder further development. The Romanians chose to reduce this threat by (1) limiting the level of imports via import substitution; (2) distributing imports among many domestic branches to avoid excessive specialization; and (3) diversifying imports and exports as much as possible among countries. This last strategy explains in part, Jackson argues, Romania's increased orientation toward the LDCs: nearly one-third of Romania's commerce is scheduled to be with Third World countries by 1980.

In its drive to achieve economic independence, Romania had a significant edge over its Balkan (as well as other East European) neighbors: energy independence. In 1974, it could supply 86 percent of its needs from domestic sources, claimed to be the highest rate of energy self sufficiency in Europe.

Romania received no significant aid from East or West (unless one classifies large commercial credits as aid). In contrast, Bulgaria has received favorable economic treatment from the Soviet Union, as was documented earlier; Yugoslavia had been a recipient of Western aid as well as substantial remittances from its nationals working in Western Europe; while Albania had obtained large aid from the CMEA countries up to 1961 and from China since then. So, on this comparison, Romania has been the most self-reliant.

Can one reconcile Albania's apparently close political alliance and economic aid relationship with the USSR until the late 1950's and with China since the early 1960's with a policy of independence? Yes, argue Kaser and Schnytzer. The main threads of their arguments on this theme are:

1. Strict central planning a la Stalinist Soviet model had been accepted by the present leadership before it came to power in 1945 as inherently the correct path for Albania, although comprehensive central planning could be introduced only gradually because there was little industry to plan during the first ten years of Communist rule (Part II, p. 584).

2. This ideologically-rooted belief explains why neither the death of Stalin in 1953 nor his denunciation by Khrushchev in 1956 had any immediate effect on Albanian economic organization or planning (Part II, p. 586).

3. For these reasons, and because Soviet rapprochement with Yugoslavia in the late 1950's appeared to pose a threat to Albanian independence, the turn to China as a protector of the country's independence was made. And because of the distance, Albania's desire for independence in domestic policy determination would

be more likely to be assured by China than the USSR (Part IV, p. 623).

4. That Albania does not follow all Chinese policies which have domestic economic and political implications is illustrated by Albania ignoring China's opening its doors to the West. Although there apparently was a debate on this and related issues during 1972-75, the victorious (Hoxha) faction felt so strongly about maintaining economic independence from the West that the new constitution adopted in 1975(?) prohibits "granting concessions to . . . as well as obtaining credits from . . . bourgeois and revisionist capitalist monopolies and states." See "Trade and Aid in the Albanian Economy," part III of this volume, pp. 1325-1340.

5. Albania is the poorest country in Europe. If its borders were opened or communications with the rest of the world made easy, all kinds of unhappy consequences for the leadership may follow. Its enforced isolation makes comparison with the outside world impossible for most; the only basis of comparison for the average Albanian is the Albanian past (Part I, p. 567).

An alternative, or supplementary explanation of Albanian policies could point out, we might add, that its break with the USSR and its withholding of a blanket endorsement of Chinese policies followed closely in each case, the initiation by Albania's principal allies of a new policy of "opening to the West," a policy Albania apparently disapproves strongly. Albania's recent quarrel with China underscores this view.

In strong contrast to Albania, Romania and Yugoslavia is Bulgaria's economic strategy. The country's close political ties with the USSR have been matched by increased economic dependence on the Soviet Union, which in turn reinforces the political ties.

#### CHANGES IN THE ECONOMIC SYSTEM

In Yugoslavia, the early 1970's witnessed a growing disenchantment with excessive dependence on market forces, stemming from "worries about the apparent increase in economic inequality both among republics and among individuals within each republic and from concern over the perceived concentration of economic power in the hands of financial institutions, the managerial elite, and wholesale, retail and foreign trade enterprises." (Tyson, p. 946). The response has been:

Important constitutional changes altering the decision-making power of government authorities and enterprises;

The enterprise structure was changed to grant more independence to intra-enterprise units called BOALS;

A greater role was assigned to planning, and a new planning infrastructure was laid out by law;

New emphasis was given to social arrangements, as opposed to market considerations, on the basis of which fundamental economic decisions were formulated; and

The influence of the Party over economic policy was enhanced.

Despite the modifications, discussed in Part II of Tyson's essay, the Yugoslav economic system remains fundamentally unchanged: an imperfect market system based on the principles of social ownership of the means of production and workers' self-management in enterprise decision-making.

Romania has been characterized by relative lack of experimentation and change in economic organization (Jackson, p. 890).

### In Bulgaria,

The proposal that the market become the principal regulator of economic activity was buried by 1965, and since that time the main search has been for more effective administrative structures of management. The advocates of market socialism have left a certain legacy to subsequent mutations of the economic mechanism, in the form of more rational price system, an increased use of contracts to coordinate inter-enterprise relations, a substantial replacement of compulsory administrative controls by financial levers, and the strengthening of cost accounting and thus the autonomy of economic organizations. Despite this, the main thrust of reform has been to experiment with redistributing autonomy and control among the enterprises themselves [forming] large trusts known as State Economic Associations (SEA) and more recently [forming even larger] National Economic Complexes (Allen, p. 667).

A detailed examination of the Bulgarian system (Section 7) suggests that the Bulgarian economy has been subject to too much organizational change during the past ten years. At the same time, the record also indicates that the leaders are more concerned with establishing practical solutions than ideologically motivated ones. Reform proceeds by testing rather than a priori reasoning (in contrast with the Hungarian solution a decade ago). The most fruitful organizational experiments were carried out in agriculture (summarized below).

In Albania, 1965-66 marked the transition from a Soviet-type planning and management system to a specifically Albanian one in which ideological and moral incentives and outcomes ranked higher than economic results. Prompted by a relatively poor economic performance in 1961-65 (which Kaser and Schnytzer consider quite respectable in view of the difficult situation faced by Albania after the break with the Soviets) and the apparently economically motivated unrest among the population, a unique kind of decentralization of economic decision-making was carried out early in 1966. On the one hand, there was a significant reduction in the number of plan indicators—a conventional step in the East European setting—on the other hand, decision-power was devolved not to enterprise management but to the workers—which is quite unconventional. But the mobilization of workers was not intended, as in the Yugoslav case, to transfer effective control over enterprise resources to them, but to come up with “counterplans” to prevent managers from hiding capacity and drawing up inflated requests—an attempt to supplement hierarchical pressures on enterprise directors with Party-led pressure from below (Part II).

### ORGANIZATION AND POLICIES IN AGRICULTURE

Yugoslavia has a dual agriculture: a relatively small socialized sector accounting for 15 percent of the cultivated land, 7 percent of the population active in agriculture, and producing 25 percent of gross agricultural product—mainly industrial crops and grain—and a large private sector working the remaining land on small farms—providing mainly vegetables, fruits, and meat. Productivity in the private sector is alleged to be only one-fourth of that in the social sector. Strict adherence to voluntary collectivization, small size for private farms, lack of adequate investment resources, and unemployment in the

cities impose constraints on what can be done, so agriculture remains a problem sector (Tyson, Section V).

In Romania, agriculture was not touched by organizational reform; it is the only country outside Albania which has not dismantled the Machine Tractor Stations (MTS). Relative underinvestment in agriculture during the 1950's and 1960's makes the productivity of an active worker only about one-fourth of that of a nonagricultural worker (official data, see Jackson, probably biased by low valuation of agricultural products). Output performance during the 1960's was very poor (Montias, p. 868). In the 1970's, agriculture received a much higher priority and responded by showing significantly improved results.

In Bulgaria, 1956-66 was a period of steady growth, with output nearly doubling. This performance is attributable to a sharp increase in investment in the sector and a crop structure planned in accordance with the country's comparative advantage.<sup>41</sup> In the early 1970's, Bulgaria began to experiment with new forms of horizontal and vertical integration, creating so-called agro-industrial complexes by merging cooperative and state farms with agricultural processing plants. Some of these experiments are being adopted elsewhere, notably in Soviet Moldavia (Allen, Sections 8 and 9).

In Albania, where the collectivization of agriculture had been completed by the mid-1960's, agriculture has continually underfilled the plan; but it still made notable gains even after collectivization. The strong commitment of the Albanian leadership to be guided by ideological considerations in its economic decisions is illustrated by the fate of the MTS. Finding that the organizational separation of the state-owned MTS and group-owned collective farms was economically inefficient, but viewing the transfer of MTS to collective ownership as an ideological retrogression, it chose a uniquely Albanian solution: (1) in 1971 a so-called "higher-type" cooperative (so designating the economically strongest ones) was introduced and (2) each "higher-type" cooperative was given the exclusive service of an MTS. Thus, the agricultural machinery remains *de jure* state owned; but in terms of availability to the cooperative, there has been a *de facto* transfer (Part II, pp. 604-605).

#### POLICY ON PERSONAL INCOMES

In Romania during 1971-75, according to official figures, real disposable income per capita, excluding social consumption, grew 4.5 to 5.0 percent per year (see Jackson), real wages 3.6 percent per year, on par with the previous five years (Montias, p. 869). Given the rapid rise in investment and the growing share of accumulation in national income—officially estimated as 25.5 percent of NMP in 1961-65, 29.5 percent in 1966-70, and 34.1 percent in 1971-75 (Montias, p. 869)—the official figures on real wage income are probably upward biased. One reason may be the use of retail price index as a deflator which could underestimate the full extent of retail price increases (Montias, p. 869).

The real income of collective farmers inched up only 1 percent per annum in 1965-70 but increased rapidly during the 1971-75 FYP as

<sup>41</sup> For a detailed, empirical examination of Bulgarian strategy in agriculture and a comparison with that of Romania, see Gur Ofer, "Growth Strategy, Specialization in Agriculture, and Trade: A Comparison of Bulgaria with the Rest of Eastern Europe," in Paul Marer and J. M. Montias (eds.), "East European Integration and East-West Trade" (forthcoming, 1978).

the leadership became very concerned about the lagging performance in agriculture. Between 1955 and 1970, the agricultural versus non-agricultural gap in incomes rose rapidly, reaching 50 percent, "active" peasants earnings less than half of state employees. During 1971-75, there was an overhaul of the incentive system in agriculture: beginning in 1971, guaranteed monthly incomes were paid for special categories of farm work, and paid vacations, child and maternity benefits, sick leave, and more adequate pensions were granted. In 1975, a generalized system of wages for all collective peasants was decreed. The private sector in agriculture was stimulated by selective price increases, reducing taxes on income. In 1976, the tax on income from private farming and gardening was replaced by a final tax per unit of land used for such purposes (Jackson, p. 936). These measures caused a spectacular rise in peasant incomes after 1972; still, in 1975, peasant real incomes were only  $\frac{2}{3}$  of real wages of state employees, a figure that is not expected to improve by 1980 (Jackson, Table 32).

In Bulgaria, a major program was introduced in 1972 to increase the population's standard of living, reflecting in part a changed attitude toward economic causation:

Whereas previously it has been argued that increases in production were a precondition for increases in consumption, this argument was turned around and higher consumption levels were seen as necessary for increased labor productivity (Allen, p. 686).

Efforts to revive lagging agriculture caused incentives to encourage production on private plots. Income from this activity is no longer subject to taxes levied on speculative and unearned income. Pensions and wages have been raised gradually, virtually eliminating the gap between rural and urban incomes (Allen, p. 682).

In Yugoslavia, real personal incomes increased only 1.5 to 2 percent per year during 1971-75, held down by a combination of unexpectedly large increases in the cost of living index and a slowdown in the growth rate of workers' remittances from abroad. Future real incomes are slated to rise more rapidly. Private-sector agricultural incomes tend to be especially low in the Southern republics.

For Albania, no reliable income measures can be cited. It is interesting to note, however, the recent changes in the compensation in agriculture. Until 1971 the income of cooperatives was a combination of payments in cash and in kind and revenue from household plots. The size of the plot permitted had been reduced several times since 1961, but on each occasion the government offset the lost income by increases in procurement prices paid, reductions in the prices of goods bought by farmers, and most recently, the payment of state pensions to eligible farm members. In 1971, the system of remuneration was brought in line with practice elsewhere in Eastern Europe by introducing monthly advances of 70 to 80 percent of estimated income, the remainder to be paid at the end of the year on the basis of plan fulfillment (Part II, p. 604).

#### TRADE

Romania has exports estimated at about one-third of produced national income, a share that is not expected to rise by 1980. Until the early 1960's, Romania was a net exporter of raw materials and

foodstuffs and a net importer of manufactures. By 1973, it was exporting a slightly larger volume of manufactures, including chemicals, than it was importing; but, like all East European members of CMEA, it was running a very large deficit in industrial raw materials (Montias, p. 869).

In Bulgaria, the share of machinery and equipment in exports rose rapidly during the postwar period, reaching 41 percent by 1975, higher than for any other CMEA country except the GDR and Czechoslovakia. This was made possible by close links with the USSR and enthusiastic participation (not always reciprocated by the trade partner) in CMEA specialization projects. At the center of the country's industrial specialization is BALKANCAR, which produces fork lift trucks, lifting gear, cranes, hoists, and batteries. BALKANCAR exports over three-quarters of its production (70 percent to socialist countries) and accounts for 11 percent of Bulgaria's global exports (Allen, Section 12).

For Albania, Kaser has performed the painstaking job of reconstructing trade statistics from partner sources (Part V). One point is particularly worth stressing: the impressions that Albania has been relying exclusively on China is not borne out by carefully sifted evidence. During 1971-75, only 23 percent of Albania's export but 53 percent of its import trade was with China. CMEA members, principally the East European countries, took 49 percent of its exports and provided 27 percent of imports; the West (including Yugoslavia and the LDC's) supplied 27 percent of exports and took 20 percent of imports (Kaser, Table V-12).

#### POLICY ON WESTERN CREDITS

To what extent does an increased reliance on Western credits stem from an *ex ante* policy decision to make use of borrowed resources to accelerate growth or consumption or both, and to what extent is increased indebtedness the unplanned *ex post* outcome of unforeseen domestic developments (e.g., investment or consumption growing faster than planned) and international events (e.g., deteriorating terms of trade and Western recession hurting exports)? It is probably correct to state that every East European country's increase in hard-currency indebtedness was partly planned and partly unplanned, nevertheless, there appear to be significant differences among them.

Romania made planned use of large Western credits to accelerate its growth via large-scale Western machinery and other technology imports earlier than other East European CMEA countries. A rapid growth in trade with the West for the early 1960's was projected in 1958; and even before the shift was made, the Romanians began looking for credits to buy Western plants and equipment.<sup>42</sup>

In the case of Bulgaria, one has the impression that the rise in its indebtedness is largely the outcome of unforeseen domestic developments, such as the establishment of overly ambitious goals that are attainable only by extraordinary efforts. These efforts required bottleneck-breaking industrial imports from the West in the 1960s and machinery and consumer good imports in the 1970s. As Allen points out, efforts to balance the economy between 1973 and the first half of 1976 were inadequate; the economy seemed to be drifting

<sup>42</sup> E. M. Snell, "East Europe's Trade and Payments," p. 715.

while huge external debts piled up and consumer purchasing power ran ahead of supplies (p. 689).

In Yugoslavia, the recent increase in indebtedness seems to have been largely unplanned, resulting from external developments. Tyson stresses the balance-of-payments constraint on growth and the difficulty the country faces in restoring the foreign balance, given Yugoslavia's priority for growth and commitment to a decentralized economic system.

Albania is a special case: although it ran deficits during 1970-73 amounting to something like half the value of its small imports from the industrial West and obtained commercial credits from Italy (its major supplier among market economies), more recently it pledged not to rely on Western credits. Albania is believed to be the only government whose new constitution contains a legal prohibition against (presumably long-term only) external loans (Kaser, p. 1332). Credits from China are evidently OK.

### *B. Northern Tier Countries*

#### BROAD ECONOMIC STRATEGY

For the GDR, its ambiguous relations with the Federal Republic of Germany are an important determinant of its economic policy: "the GDR cannot help but feel that it is taking part in an unending economic race \* \* \* on whose outcome the very stability of the GDR may depend". (Keren, p. 721). The GDR cannot permit itself to fall far behind the FRG in consumption standards, a consideration underscored by the Polish riots in December 1970 which led to a reassessment of the consumer's place in East Germany's development policy.

This dilemma also conditions the GDR's relations with the Soviet Union and the rest of CMEA, where its potential weakness vis-a-vis the FRG gives it strength and leverage (Keren, p. 722).

For Czechoslovakia, the restoration of economic normalcy and control became the chief determinant of economic policy after 1968; the country seems to be characterized by an absence of any new economic strategy or policy initiative.

Hungary has been occupied with guiding its economy within the framework of its comprehensive economic reforms, with reasonable success, as is argued in the essay by Portes.

Poland is the site of one of the most notable new developments since 1970: adoption of a rather extreme version of import-induced growth as a development strategy, with a large part of imports financed by credits. Two environmental considerations, external and internal, played a large role in inducing this new strategy. The external one was the signing of a "normalization treaty" with the FRG in December 1970, followed by the Soviet-American detente of the early 1970's which created a climate conducive to reorientation toward the West. The internal consideration was the confrontation in December 1970 between the workers and the government following the rise in food prices. The government then acquiesced in the workers' combined demand of price freeze and substantial wage increases. This in turn ruled out an acceleration of investment growth based on internal resources—the strategy followed by Gomulka—and ushered

in the import-induced growth strategy of Gierek, initially planned on a moderate but realized in a rather extreme version, as discussed by Fallenbuchl (Parts I-III).<sup>43</sup>

#### CHANGES IN THE ECONOMIC SYSTEM

The GDR embarked on its own unique New Economic System (NES) in 1963-64. It was discarded at the end of the 1960s when the economy returned to the traditional Soviet-type economy fold. Keren summarizes the main features of the NES and illuminates in considerable detail the pressures which prompted the East German leadership to return to a more traditional planning and management system.

Czechoslovakia, after Husak's restoration of an authoritarian regime, terminated the earlier economic reform movement and gradually resurrected "the apparatus of central planning \* \* \* more thoroughly than it was thought possible" (Holesovsky, p. 714). Some argue, Holesovsky reports, that the resumption of economic expansion after the elimination of market-oriented reforms seems to support the anti-reformist position—an issue that is addressed also for East Germany by Keren. But the issue is not, Holesovsky believes, "does the system work?" but "how efficiently does it work compared to possible alternatives" (Holesovsky, Part III).

During the early 1970's, Poland experimented with limited economic reforms, but elements of it were introduced and often modified in a haphazard, internally inconsistent manner. As soon as there was an unfavorable change in the environment, there was an increase in the use of direct commands and intervention by central authorities. This reduced the autonomy granted to the so-called big economic organizations by the reform, although their autonomy had never been great. (See Fallenbuchl.)

Fallenbuchl concludes:

No serious economic reforms are envisaged for \* \* \* 1976-80. For the time being there seems to be no return even to the limited reforms which had been started in the first years of the decade. At least in 1977, the "new economic and financial system" will remain inoperative, the autonomy of the large economic organizations (WOG) will continue to be seriously limited, and the use of command directives rather than parametric steering will still be retained (p. 858)

For Hungary, Portes takes as his principal focus an analysis of the evolution of the country's "New Economic Mechanism" (NEM). Portes discusses how far the reformers' conception has been realized in practice and evaluates the economy's performance under NEM. He concludes that, overall, there was no slackening in the dynamism of economic growth. Real income increases accelerated as compared with the pre-reform period, and the record of controlling inflation has been good. But there has also been a notable lack of effective control over investments which, together with the worsening terms of trade, caused the unfavorable development in the hard-currency balance of payments (p. 781).

Very important is the detailed analysis of the status of the NEM since the widely noted "retrenchment" during 1972-74. He concludes that the essence of the NEM remains intact and that there

<sup>43</sup> See also S. Gomulka, "Investment Imports, Technical Change and Economic Growth: Poland 1971-1980," paper delivered to Conference of National Association for Soviet and East European Studies, Cambridge, UK, March 1977.

has been little further recentralization since 1973. Portes' final assessment is interesting:

This is itself remarkable in view of the extremely unfavorable impact from the foreign sector in 1974-75 \* \* \*. The fundamental success of the reforms is demonstrated by their resistance to a powerful set of forces, any of which alone might have brought back central physical allocation, obligatory plan targets and incentives based on them, and all else associated with the "standard system" of command planning (p. 788).

We might add a personal note to Portes' conclusion. If recent statements by Hungarian economists can be taken at face value, Hungary has made a tentative commitment to enlarge gradually the scope of the NEM by 1980, notably in the foreign trade and foreign exchange area.<sup>44</sup> This is because NEM is considered essential for implementing a new economic strategy, whose dual aim is (1) to restructure the economy toward sectors that are more productive and have good further potentials, and (2) to improve the effectiveness of Hungary's specialization in the world economy. These objectives require flexibility, adaptability, and enterprise initiative, requirements that are consistent with the mechanism of the NEM.

## VI. PROSPECTS

Two of the common, and in several countries the most serious, problems that remain to be solved are: (1) how to restore the economic imbalance created by the rapid rise in hard-currency indebtedness and other obligations, and (2) how to improve the efficiency of production, since productivity must generate a larger share of growth to compensate for slowdowns in the rate of growth of factor inputs—capital and labor. The two problems are interrelated.

Meeting foreign obligations and commitments—whether to the West for servicing the debt, to the USSR for investment participation or debt service, or to the LDCs in the form of new credits to finance machinery exports—involves a faster rate of growth of national income produced than national income domestically used. But additions to domestically available national income are an important source of new investment as well as for increased consumption. The latter is also, indirectly, a factor of production because increased consumer goods serve as incentives to elicit improved performance by labor.

A first approximation to the repayment burdens of East European countries on their hard-currency debts is their debt-service ratios (share of hard-currency exports devoted to interest and principal and thus unavailable to pay for current imports). At the end of 1976, the ratios of the East European countries were estimated as:<sup>45</sup>

Bulgaria.....	0.75	Hungary.....	0.37
Poland.....	.47	GDR.....	.30
Romania.....	.46	Czechoslovakia.....	.30

The debt service burden is reflected in the plans and recent policy changes of these countries. For example, in Bulgaria, in July 1976 the Central Committee Plenum adopted a new stabilization policy, mobilizing the entire party apparatus to solve problems of waste and over investment. The plans for 1977 project a rise in produced national

<sup>44</sup> Personal interviews, April 1977.

<sup>45</sup> Zoeter, *op. cit.*, appendix E. The hard-currency exports do not include invisible receipts. For countries like Bulgaria, the inclusion of invisibles would lower the ratio substantially.

income of 8.2 percent versus domestically utilized national income of only 4.5 percent (Allen p. 662).

Poland also plans to start repaying loans during the current FYP. Thus, while during 1971-75 utilized national income grew by 12 percent per annum versus produced national income by less than 10 percent, the plans for 1976-80 project a 4.8 percent versus 7 percent per annum ratio (Fallenbuchl, p. 857). The situation is similar in Romania, where utilized national income is scheduled to increase by 8 percent per year versus produced national income at more than 10 percent (Jackson, Table 9).

The East European countries plan to meet the hard-currency payment pressures by increasing export rather than by restricting imports. The question is whether exports can in fact be increased as rapidly as planned. This depends in part on economic conditions and commercial policies in the main Western countries, as well as on the exporting countries' ability to produce high-quality goods readily marketable for hard currency.

A slowdown in the growth rate of utilized national income (which could be quite substantial if imports have to be cut drastically) means that the growth rate of consumption will fall. Crucial for these countries' future prospects is an assessment of how the population will react. Soviet actions can amplify or cushion the expected slowing (or possible reduction) in the growth of consumption. Preliminary evidence suggests that the Soviets would lean, for political reasons, toward cushioning a decline by letting East European countries run up debts to be repaid in the 1980's or by reducing the amount of resources required to invest in projects located in the USSR. Both of these actions would free exports to the West.

On the problem of improving the efficiency of the economy; all countries face difficulties. The systemic and organizational obstacles to improved efficiency are well known problems. It must also be recognized that the change from a predominantly agricultural to a largely industrial society has been so rapid in the Balkan countries (and to some degree in Hungary and Poland) that most workers are only one generation or less removed from agriculture. Consequently, the quality of the nonagricultural labor force is poor, which may now be a major factor hindering improved productivity.

In many countries it is no longer possible to have a large-scale shift of labor from less productive agriculture to more productive non-agricultural sectors. Even in countries that still have a large agricultural work force with relatively low productivity, further large-scale reductions in the work force are constrained by (1) the unfavorable age and sex composition of the remaining work force; (2) small private plots too numerous in Poland and Yugoslavia, an arrangement not suitable to mechanization, but land consolidation is not now politically feasible; and (3) the amount of resources the state is willing to devote to improve agricultural productivity. Too rapid a reduction in agricultural work force without compensating investment causes output to lag which soon becomes a serious bottleneck in fulfilling export and domestic consumption plans.

To improve productivity, a renewed emphasis has been placed in all countries on technological innovation and on reducing the share of labor-material-and fuel-intensive products in output.<sup>46</sup>

<sup>46</sup> See analysis of the 1976-80 FYPs of the East European countries and the USSR in United Nations, Economic Commission for Europe, Economic Survey of Europe, 1976, Annex.

In the short to medium run, numerous factors external to the economies of the East European countries will affect their performance and prospects. But in the longer run, their economic performance will be decided largely by their ability to overcome systemic limitations to productivity improvements.

#### APPENDIX. DERIVATION OF HUNGARY'S 1975 DOLLAR TRADE WITH SOCIALIST COUNTRIES

Hungary publishes trade statistics by groups of countries and also on the basis of the settlement currency used. Total exports and imports differ if recorded on a settlement rather than a partner country basis, as is shown in the tabulation below. This is because transport and related costs are recorded differently under the two concepts, as is shown in the tabulation (in million devisa-forints):

	1975 exports to—			1975 imports from—		
	Socialist (ruble)	Nonsocialist (dollar)	Total	Socialist (ruble)	Nonsocialist (dollar)	Total
By country.....	37,679	14,491	52,170	40,420	21,117	61,537
By settlement.....	33,109	19,750	52,859	37,285	23,315	60,600
Difference (by country less settlement).....	+4,570	-5,259	-689	+3,135	-2,198	+937

Trade recorded by partner country is valued at so-called "border parity." In exports (f.o.b. Hungarian border) this means subtracting from actual export proceeds the transport costs incurred by Hungary, in foreign exchange, from the Hungarian border to the actual delivery point. In imports (c.i.f. Hungarian border), it means adding to the actual contract price the foreign exchange cost of bringing the merchandise to the border. Trade recorded on a settlement basis shows the actual contract revenue on exports and actual contract cost of imports, whatever the location of sale or purchase, as specified in the contract.<sup>47</sup> Thus, exports are 689 million devisa-forints (\$80.1 million or SDR 58.7 million), or 1.3 percent larger if recorded on a settlement (contract) rather than a country (f.o.b. Hungarian border) basis, showing that Hungary incurred foreign exchange costs of that amount to deliver its exports to destination, as specified in the contract. Imports are 937 million devisa-forints (\$109 million or SDR 79.8), or 1.5 percent, larger if recorded on country (c.i.f. Hungarian border) rather than contract settlement basis, showing that Hungary incurred foreign exchange costs of that amount to transport its imports to its border.

These details help to determine the volume of Hungary's dollar-price-settlement trade with socialist countries, which in turn is the basis for understanding the difference between price indices calculated for socialist versus ruble-price-settlement and non-socialist versus dollar-price-settlement trade flows, presented in Table 7.

To estimate the size of Hungary's dollar-price-settlement trade with socialist countries, one should compare trade flows by country and by settlement that treat transport and related costs in an identical manner. Thus, in exports, the 33,109 million devisa-forint value includes a certain portion of the 689 million devisa-forint of total transport cost incurred by Hungary to deliver exports to a destination specified in the contract; whereas the 37,679 million devisa-forint value recorded on a country basis does not include transport costs beyond the Hungarian border. Because the socialist countries are located nearer to Hungary, on the average, than the nonsocialist countries, one would expect a more than proportionate share of the transport costs to be incurred on nonsocialist trade. If we assume, arbitrarily, that one-half of the transport cost is incurred in socialist and the other half on nonsocialist trade, then the trade flows recorded on country and settlement basis would be as follows (in million devisa-forints):

<sup>47</sup> Küklereskedelmi (1975), p. 7.

	Socialist (ruble)	Nonsocialist (dollar)	Total	Socialist (ruble)	Nonsocialist (dollar)	Total
By country.....	37,679	14,491	52,170	39,951	20,649	60,600
By settlement.....	32,764	19,406	52,170	37,285	23,315	60,600
Difference.....	+4,915	-4,915		+2,666	-2,666	
As percent of trade by country.....	13	33.9		6.7	13.1	

Thus, our best estimate is that, in 1975, 13 percent of Hungary's exports to the socialist countries (\$571.5 million or SDR 418.7) and 6.7 percent of its imports (\$310 million or SDR 227.1) from the same group were priced at current world market rather than CMEA contract prices.<sup>48</sup> Since most of these goods are comprised of primary products—energy, raw materials, and agricultural commodities—their current world price is probably higher, on the average, than CMEA contract prices. Accordingly, Hungary's export and import price indices in trade with socialist countries (which includes these higher-priced items) is higher than the corresponding indices in ruble-settlement trade (which excludes these items).

That Hungary's terms of trade with socialist countries is worse (by 3 percentage points) than in ruble-settlement trade, even though Hungary's exports contain almost twice as much of these higher-priced goods than its imports, suggests that the price differential was considerably larger in imports than in exports. This again, is expected because some of the above-quota deliveries are comprised of crude oil from the USSR.<sup>49</sup>

<sup>48</sup> For a more detailed discussion and estimates for 1971-75 (based on a somewhat different methodology), see M. J. Kohn and N. R. Lang, "The Intra-CMEA Foreign Trade System: Major Price Changes, Little Reforms," in this volume, Section V and Appendix 2; and Lawrence Brainard, "The CMEA Financial System and Integration," in Paul Marer and J. M. Mortias (eds.), *East European Integration and East-West trade*—table 2).

<sup>49</sup> In 1975 the USSR agreed to deliver to Hungary 760,000 tons of crude oil above the 6 million tons of planned shipments. If the price charged was, say \$60/ton, this item alone would represent \$45.6 million, or 20 percent of Hungary's dollar-price settlement imports. (The appropriate comparison is with the SDR rather than current dollar values because the devisa-forint/devisa-ruble exchange rate did not change after 1971.)

# ALBANIA—A UNIQUELY SOCIALIST ECONOMY

BY MICHAEL KASER\* AND ADI SCHNYTZER\*\*

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### I. THE CONTEXT OF ECONOMIC DEVELOPMENT

There can be no doubt that Albania is the poorest country in Europe; the only relevant questions are the degree of its poverty and the speed whereby its policy of socialist self-reliance is revolutionizing its economic prospects. The three decades since the Liberation of 1944 have witnessed not only faster development than at any time in its history but what its ruling Party of Labour rightly terms a socio-economic transformation from an agrarian to an agrarian-industrial and eventually to an industrial-agrarian nation. When the Albanian Communist Party (since 1948, the Party of Labour of Albania, hereafter PLA), took power at the end of World War II, it inherited a virtually feudal agriculture, with small-scale trade and crafts carried out within townships which had changed relatively little since the Turkish occupation. The poverty of the time was paralleled in some regions of Europe, but not as the characteristic of an entire economy.

Successive allies, Yugoslavia (1944-48), the U.S.S.R. (1964-61) and China (since 1961) have extended economic assistance. During the period of the Five-year Plan for 1971-75 it is estimated in this paper that Chinese assistance was worth \$485 mn on a cumulative import bill of \$1,238 mn, that is two fifths. In 1970 estimates described below put external aid as adding 8 percent to gross territorial product to yield a gross domestic or gross national product of \$693 mn. The main contributor to economic growth has been a determined mobilization of domestic resources; save only for a few early years, "self-reliance", owing something to the Chinese model but much evoked by the PLA. has been the watchword.

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# Albania and Kosovo Administrative Division with District Populations, 1973

Population of districts in thousands



No estimate appears to have been made in any source of the Albanian national accounts and those which appear in this section must be regarded as highly tentative.<sup>1</sup> The conversion of domestic prices into a Western currency is fraught with uncertainties, but if the magnitudes are in any reasonable approximation to reality, the level of poverty which still remains despite three decades of impressive effort, is evident from a GNP per capita in 1970 of \$350.

But Albania is not the sole homeland of the four million Albanians in the Western Balkan peninsula: three-fifths inhabit the People's republic, but two-fifths occupy the Kosovo Autonomous Province of Yugoslavia. It was on the latter territory that modern Albanian nationalism was born as the League of Prizren in 1878. Albanian independence was proclaimed in 1912, when four years of sporadic uprisings against the Turkish rulers coincided with the Balkan War (1912-13). Although recognized by the Great Powers, Albania fell prey to occupation by both sides during World War I and the postwar boundaries restricted Albania to its present boundaries while the newly-created Yugoslavia incorporated Kosovo. The Italian invasion of April 1939, followed in 1941 by the German defeat of Yugoslavia, facilitated a reunion, but one founded solely on the force of alien occupation.

The Albanian Communist Party was founded under that occupation in November 1941 and the cooperation of its resistance army with the Yugoslav Partisans made respect for the prewar frontier inevitable when both were victorious. Although the federal constitution with which Yugoslavia was endowed by its dominant Communist Party did not, however, separate Kosovo from the Serbian Republic, Albanian union with Yugoslavia as a federated republic would have embraced an enlargement to include Kosovo.

Yugoslavia's break with the Soviet Union, whose part Albania took, in 1948 ruptured the ties between Kosovo and Albania and was the pretext for the imposition of Serbian police rule on Kosovo to inhibit any separatist or dissident movement.

The year 1966 marked a most striking change in the government of the two Albanian territories. The dismissal of the Yugoslav Minister of the Interior, Aleksandar Ranković, was followed by concessions to the Kosovar nationalists, whose agitation had been increasing in the early sixties and which now reached a peak in 1968. The new Yugoslav Constitution of June 1971 set the seal on the trend to recognition of Kosovar nationality (the Autonomous Province adopted the Albanian flag as its own) but fell short of Republican status. The introduction of a new policy in Albania in 1966 was still more abrupt, for the Cultural Revolution was propagated by the PLA, principally to break the hold of bureaucracy, religion and survivals of feudalism. The present paper cannot but take that year as the dividing line in government and party policies.<sup>2</sup>

<sup>1</sup> One of the authors of this study, in the context of an exercise in prognosis, made a sketch estimate in 1966 of Albanian product in 1967 and 1970 (later published in P. Wiles ed.), *The Prediction of Communist Economic Performance*, Cambridge, 1971, p. 93).

<sup>2</sup> The principal studies in English, from considerably differing standpoints, of this period in a long-run context are Ash, *Pickaxe and Rifle*, London, 1975; A. Logoreci, *The Albanians*, London, 1976; R. Marmallaku, *Albania and the Albanians*, London 1975 and N.C. Pano, *The People's Republic of Albania*, Baltimore, 1968. The three latter are Albanian, a British citizen resident in the UK, the second in Yugoslavia and the last a United States citizen.

But what is more significant for Albanians as a nationality is the growth over the past decade of contact between Kosovo and Albania. The new University of Prishtinë has become a centre of Albanian culture and deliberate efforts are being made by the Kosovo authorities to adopt the present standard form of the Albanian language.

The division of Albanian into a northern dialect, Geg and a southern, Tosk, effectively at the river Shkumbi, seems to reflect some pre-historic linguistic frontier and certainly has been long exhibited in differing popular characteristics. The Gëgs were scarcely ever subject to Ottoman rule, maintained a patriarchal mode of life and subjected themselves to the blood feud. The Tosks settled on large estates, and took more readily to education and to urban life. The majority of the early PLA leaders, including Enver Hoxha, before the war a graduate student of a Belgian University and a teacher at the French Lycée in Korçë, are Tosk and the standard language is based on Tosk. The Gëgs in Albania have inevitably adopted the standard tongue (though using much Geg informally) and since 1966 the trend to standard Tosk has been clearly patent in Kosovo.

The ethnic background to the two Albanian territories serves to underpin the economic comparison that is made in this first section between the two. But the relativity is helpful on a further criterion, namely that Albania has embraced an economic system that impells the enterprise manager to conform to central directives by organized worker pressure; it is a command economy on the Stalinist model adopting several distinctive Albanian practices. On the other hand Kosovo shares with the rest of Yugoslavia the procedures of worker self-management which were innovated by the Yugoslav League of Communists in 1950 precisely to differentiate their economy and ideology from Stalin's. The economic reform of 1965 (with the political liberalization that followed the dismissal of the Minister of the Interior) endowed the enterprises with a market framework for decisions. No trustworthy comparison can be made on the basis of existing statistics of the relative economic efficiencies under which the two groups of Albanians live, but the different economic systems must at some time attract more detailed study. Being the first thorough examination of the Albanian economy since that of the United Nations Economic Commission for Europe in its *Economic Survey of Europe in 1960*, and the first to appear in the Congressional Compendium, it is of necessity tentative.

### A. *The Political Environment*

Political developments in Albania have received some attention in the West, particularly Albania's role in the Sino-Soviet split and blow-by-blow accounts of purges within the upper echelons of the PLA hierarchy.<sup>3</sup> Unfortunately, however, no attempt appears yet to have been made to relate political and social variables to the country's economic development. In the following discussion an attempt is made to briefly fill this gap by outlining some of the non-economic factors which must be considered in evaluating the ensuing economic analysis.

<sup>3</sup> See, for example, Pano, op. cit. and W. E. Griffith, *Albania and the Sino-Soviet Rift*, Cambridge, Mass., 1963.

Since November 8, 1941 when the Albanian Communist Party was formed, its First Secretary (originally Secretary-General) has been Enver Hoxha and at almost all times since the Chairman of the Council of Ministers Mehmet Shehu, and Hysni Kapo, the Party Secretary for ideology, have been members of the Politbureau. Of the East European states, only Yugoslavia has a similar record of continuous leadership. It is no exaggeration to argue that almost all Albanian economic policy since World War II has been initiated by the ideas of these three men. Thus, more often than in any other East European economy, a speech made by a member of the Party leadership has led almost immediately to perceptible changes in policy. For example, in his report to the Sixth Congress of the PLA in November 1971, Enver Hoxha suggested that mathematical techniques would be useful in raising the "scientific content" of economic planning. This speech was followed by numerous articles on the subject in the Albanian press and, between 1972 and 1974 a wide variety of mathematical economic text-books were published by Tirana State University.

On the other hand, this is not to suggest that the Albanian population determines its behaviour on the basis of norms dictated by the Party leadership. Indeed, the closed nature of Albanian society and the absence of explicit economic debate in Albanian publications renders the distinction desired and actual outcomes extremely difficult to make. Thus it is impossible to determine the precise extent to which, for example, the schemes for worker participation and cadre circulation discussed in section II have actually been put into practice. However, it does not seem reasonable to conclude that none of these policies were ever implemented, there being elements of the social environment which suggest that certain ideologically-motivated campaigns might enjoy more public support than similar measures elsewhere in Eastern Europe. Thus, the statement is often made in socialist economies that certain construction work was undertaken "voluntarily" by students in their spare time. In evaluating the validity of this claim in the case of Albania it must be recalled that the sale of young girls into betrothal by their parents was a common feature of pre-war Albania. The PLA has devoted considerable space in the press and effort through the school system to convince the youth that marriage should take place on the basis of mutual love and that this can only develop if teenagers are permitted to mix socially without significant interference from parents. To facilitate this arguably popular situation—and it must be noted that well over 60 per cent of the Albanian population is under thirty years of age—the PLA organized the transport of hundreds of Geg girls from the more conservative northern regions to work on the Fier-R rogozhira railway site with Tosk youths from the south. Under these circumstances it seems likely that the term "voluntary" is appropriate.

The backwardness of the past and the linguistic and geographic isolation of Albania are further factors likely to lead to popular support for the PLA's policies. Thus in 1945 over 80 per cent of the population was illiterate, whereas by 1972 every third citizen was enrolled in some kind of educational institution.<sup>4</sup> The low level of

<sup>4</sup> Marmullaku, *op. cit.*, p. 78.

economic development has already been noted and thus, when the PLA argues for support for its policies on the basis of its past record, it would be difficult to dispute its achievements. The country's isolation only serves to facilitate this situation, the only basis of comparison for the average Albania being the Albanian past.

The PLA's implied eagerness for popular support must be contrasted with the steadfast determination of the leadership not to tolerate dissent within the party. Albania is probably the only country in Eastern Europe in which officials of high rank may incur loss of life when they are dismissed. The economic implications of recent purges are discussed in section IV: suffice it to note here that statements such as the following made at the Seventh Congress of the PLA in November 1976 leave little doubt as to the victims' fate:

The Party and the dictatorship of the proletariat hit them with an iron fist and threw them into the dustbin, where all the traitors to the revolution belong.<sup>5</sup>

Concomitant with the elimination of opposition is the leadership's policy of promoting young people to high government posts, officials presumably being free from Soviet and other undesirable influences from the past and supporters of Enver Hoxha. The elevation of two women, both under forty and without any previous experience in government, to the posts of Minister of Agriculture and Minister of Education in April 1976 provide good examples of this policy. Enver Hoxha like Marshal Tito in Yugoslavia is clearly concerned that his policies should live on after him.

Finally, mention must be made of the most important political factor in the determination of Albania's external economic relations and her industrial policy of self-reliance, nationalism. Thus, whereas Hoxha in his 250-page report to the Seventh Congress criticized many deviations from marxism-leninism, he never referred to nationalism. The following extract from Shehu's report suggests the reason for the omission:

Should we permit foreign armies to be based or deployed on our territory? Never! They will say that we are small and cannot resist. That is what the imperialists and capitulationists have always said of small nations. . . . In these conditions, as comrade Enver Hoxha put it over 16 years ago, "cursed be our mothers' milk, cursed be the bread the Party and people feed us with, if we do not defend the interests of our people."<sup>6</sup>

The PLA leadership has consistently used the argument that Albania is surrounded by enemies bent on her destruction to justify high rates of accumulation for industrialization stringent import controls and the policy of self-reliance (the combination of which is discussed in section IV).

### *B. International Comparison*

A novelty of this paper is the reconstruction of a national accounting framework for Albania and a conversion of the main aggregates into United States dollars. Both the exercise in composing an account and the use of the exchange rate for non-commercial transactions are tentative, but as some verification can be found in comparison of the aggregates with those for the Kosovo Autonomous Province of Yugoslavia, an area predominantly inhabited by Albanians who settled there during the long Turkish occupation of the Balkans. The rela-

<sup>5</sup> E. Hoxha, *Report to the Seventh Congress of the PLA*, Tirana, 1976, p. 8.

<sup>6</sup> M. Shehu, *Report on the Sixth Five-Year Plan, (1976-1980)*, Tirana, 1976, pp. 112-113;

tivities in values per capita between Albania and Kosovo are in their turn subject to a rough verification by a comparison of physical production per capita and by comparisons of retail prices in Albania, Yugoslavia and the United States.

It is appropriate to bring together at the outset a discussion of the rate of exchange, since the approach here adopted of comparing national products depends on the conversion of leks into dinars; insufficient data in physical terms are available from Albania for foreign prices to be applied to national quantities. The rate between the Albanian lek and the dollar is determined by the State Bank of Albania at its own discretion. No leks may be exported or imported and foreign transactions or remittances are denominated in the partner's or a vehicle currency. The pre-war Albanian franc had been one of the strongest currencies in Europe, with sound gold backing, but had depreciated during the occupation. It was replaced by the lek in 1947, which from its inception has been inconvertible. The rate used to compile trade returns is the 'official' rate shown in Table 13 of the paper on Albania in Part III and bears no direct relation to the purchasing power of the lek at home. The 'non-commercial' rate chiefly serves tourism and remittances and is intended to reflect mainly the prices of goods and services bought by tourists. The non-commercial rate ruling throughout 1970 was 12.50 lek to the dollar and the very few food prices available in published Albanian sources show this not to be unrealistic:

[Prices per kilogram in 1970]

	Leks in Albania	Cents in United States	Leks per dollar
Bread.....	2.0	53.6	3.73
Flour.....	3.7	26.0	14.23
Rice.....	8.0	42.1	19.00
Sugar.....	8.0	28.7	3.48

Source: Table III-8 and Statistical Abstract of the United States.

The spread around the rate is expectedly wide and, with no information on Albanian weights, it is impressionistically satisfactory. A second check on the appropriateness of the 12.50 rate may be found in a very rough estimate by one of the authors of 15.50 leks to the dollar for 1966 prices.<sup>7</sup> 1971 prices used for some of the entries in the present estimate of national accounts were 12 per cent below the 1966 prices which were effective until 1966,<sup>8</sup> when the industrial price index was 8 per cent below that of 1971. The lower bound of the 1966-prices estimate was 13.50 leks to the dollar,<sup>9</sup> which would extrapolate to 12.50 leks for 1971 prices (if industrial prices were on trend). As retail prices may have fallen a little faster (see 1956 and 1970 prices in Table III-8), the 1966 and 1970 estimates seem compatible.

The comparison of the national accounts with the Kosovo Autonomous Province also raises the issue of the reflection of the purchasing power of the Yugoslav dinar in the official exchange rate, which, as it happened, was 12.50 to the dollar throughout 1970. The rates diverged

<sup>7</sup> The estimate of the degree of over-valuation of the Albanian lek can only be guessed at within wide limits'. (Kaser, *loc. cit.*)

<sup>8</sup> See Appendix I, section C for the deflator.

<sup>9</sup> See original paper by Kaser, *Analyse et Prévision*, November 1967, (Vol. IV, No. 5), p. 766.

at the devaluation of the dinar to 17 to the dollar in December 1971. The Organization for Economic Cooperation and Development (OECD) appears to use the official rate to render the Yugoslav GNP into dollars, but has not published a dollar figure for 1970.<sup>10</sup> It has in many reports published a value per capita for 1969 (\$561) and for 1971 (\$760): the mean of those years (\$660)<sup>11</sup> compares with the Yugoslav official estimate of 7,658 dinars per capita, which would be 11.60 dinars to the dollar.

A much higher purchasing power of the dinar in relation to the lek at the cross-rate to the dollar is indicated from a comparison of retail prices in Table III-8. The arithmetical average of the six prices which have been found for the two currencies shows that in 1970 the dinar bought exactly twice as much as the lek. The smallness of the sample and the uncertainty of precise comparison precludes any exact measure of relative purchasing power, but retail prices are a poor reflection of all prices, since Albanian retail prices bear a heavy turnover tax, which partly subsidises capital-good prices, while Yugoslav fiscal reliance is heavily on across-the-board taxes on enterprise profits and on worker dividends. The validity of the dollar rate for the dinar may also be brought into question. Of the foods shown in Table III-8, the dollar in terms of bread was 3.54 dinars, flour 5.00 dinars and sugar 9.76 dinars.

The calculation applying 12.50 leks to the dollar, shown in Table I-1 and explained in the Appendix, puts Albanian gross domestic product (GDP) in 1970 at \$693 mn. The United Nations System of National Accounts (SNA) allows only factor income from abroad to be counted as the aggregate additional to gross domestic product (GDP) which constitutes gross national product (GNP). It seemed appropriate therefore to use the concept of gross territorial product (GTP) to define GDP less the import deficit (Table I-1). A GTP of \$693 mn was supplemented in 1970 by an excess of imports over exports of \$55 mn to constitute a GNP or GDP (since there was no factor income from abroad of \$748 mn. At a mean population that year of 2,135,600, the per capita GNP/GDP was \$350.

In world terms, a GNP of \$350 per capita was well below those of other European countries, \$613 for Yugoslavia, \$653 for Portugal, \$682 for Malta, all—like Albania—in poorer Southern Europe. But it was in line with a per capita GNP in 1970 of \$361 for the Philippines, \$362 for Brazil and \$384 for Iran. A more telling comparison is, however, with the neighbouring Kosovo Autonomous Province in Yugoslavia, which had a GNP per capita at the prevailing exchange rate of only \$205 per capita.<sup>12</sup> The composition of NMP in Albania and in Kosovo (Table I-2) is in domestic currency units but as the rate to the dollar was 12.50 dinars and 12.50 leks, they are meaningful in terms of each other in prevailing exchange rates. The disparity of price structures in Kosovo and Albania must be stressed at the outset<sup>13</sup> as are the tentative nature of the Albanian

<sup>10</sup> The United Nations, *Yearbook of National Accounts Statistics*, 1971, Vol. III, does not give dollar estimates for Yugoslavia or for any planned economy.

<sup>11</sup> A value of \$660 per capita is also shown as the product of 1969 GNP per capita in the OECD estimate and the increment of 18.0 per cent in 1970 in the official Yugoslav (*Statistički godišnjak* 1976 pp. 101, 137) shows the mean 1969 population at 20,371,000 and GNP as 131.96 bn dinars.

<sup>12</sup> GNP arising in Kosovo was 2,907 mn dinars in 1970 (*Statistički godišnjak*, 1975, Table 204-3) or 2,383 dinars per capita, for a population of 1.22 mn; for a population of 20,527,000, Yugoslav GNP was 157,207 mn dinars (*Statistički godišnjak* 1976, Table 106-1), or 7,658 dinars per capita. Hence Kosovo was 31.3 per cent of the national average per capita. The dollar equivalent for Kosovo is thus 31.1 per cent of \$660 per capita, or \$205.

<sup>13</sup> Turnover tax in 1969 for example brought in 2.14 bn leks from a retail turnover of 7.47 bn.

aggregates. The two international bodies of which Albania is a member and which seek to publish comprehensive national accounting data rigorously eschew any statement on Albania, save the rare official indexes. Thus the United Nations *Yearbook of National Accounts Statistics, 1975* (1976) publishes only a breakdown of NMP as index-numbers (1960–1969, with later years blank) and socialist-sector gross fixed capital formation (in value for the same period). Its *Statistical Yearbook* omits Albania from all international comparative tables. The Secretariat of the United Nations Economic Commission for Europe similarly left Albania out of its estimates of gross domestic product of most European countries in a common currency in its *Economic Survey of Europe in 1969*<sup>14</sup>—or of the net material product which it employs to weight its annual composite index of national income produced in East Europe; it also excludes Albania from its aggregate industrial index.<sup>15</sup> The Yugoslav Federal Board of Statistics publishes detailed annual breakdowns of its national accounts for each of the constituent republics and the autonomous provinces of Serbia (of which Kosovo is one); because it adopts both the SNA of the United Nations and the NMP basis as utilized in Albania, its data furnish a valuable standard of comparison. Although as already mentioned the lek and dinar were by coincidence at par in purchasing power in 1970, it is less the magnitudes that are of interest than the relativities.

The *caveat* is of particular importance in assessing the origin of material product. The percentage generated in construction and transport is the same, but, as would be expected in a small-scale market economy, even a socialist one, trade and catering contributes more in Kosovo than in Albania (private employment in small hotels and restaurants is permitted in Yugoslavia). Transport and trade are the only two branches in which Kosovo output per capita is close to that of Albania.

The principal divergence in structure arises between agriculture and industry. Agricultural production per head of population in Kosovo would, on the estimates of Table I-2, be only 70 per cent of that in Albania, but contribute a larger share of material product because of its much smaller output of industry per head. Industry provides 58 per cent per capita in Kosovo of that which it does in Albania. The Yugoslav statistics show a breakdown between industry and handicrafts (870mn dinars and 98mn respectively) but no corresponding estimate can be made for Albania, nor do either separate mining from manufacturing. In considering the industrial share of 42.4 per cent for Albania with 37.2 per cent for Kosovo the possible effects of price ratios must be borne in mind: detail of Albanian prices is however far too sparse to attempt any repricing, but it could be that in a market economy with an independent peasantry (collectivization was abandoned in Yugoslavia in 1950) farm-gate prices are higher than those for compulsory deliveries from cooperative farms in Albania, both sets of prices judged in relation to industrial producer prices.

It would also be a feature of Albanian management to understate depreciation in relation to Yugoslav practice, with the implication

<sup>14</sup> Initially presented in *Survey*, Part II, chapter I, text table, p. 1; for subsequent use (and continued omission of Albania) see *Survey*, Part II, chapter I, Table 1.1.

<sup>15</sup> *Economic Survey of Europe in 1972*, text-table on p. 54.

that gross material product (GMP) is a more reliable criterion. Per capita GMP in Kosovo in 1970 was 68 per cent of that in Albania. The divergence on depreciation practice could arise on the overestimation of the length of asset life (familiar procedure in a centrally-planned economy) and the relative disregard of obsolescence as a factor in a decision to scrap, taken with the virtual absence of authority on the part of the enterprise director to re-invest his amortization allowances (see text-table in Section II). Under the market syndicalism of Yugoslavia, depreciation would tend to be calculated so as to yield the replacement value when the asset was withdrawn in face of competitive factor pricing, thus shortening expected asset life and calculating amortization with some reference to the cost of replacement (against original value in Albania). The nature of the two economies also shows itself in the addition of inter-enterprise transfers to yield gross social product. Table I-2 deliberately shows these flows as additions to GMP, not as part of GSP, as in Albanian (and general East European) practice because the size of GSP depends not only on real economic activities but also upon their organization. It is in that organization that the interest of the comparison lies, for more transfers take place per unit of value-added in Albania than in Kosovo. Partly this must be due to the simpler structure of the poorer agrarian economy, viz. Kosovo peasants are more self-sufficient than Albanian collective farmers, that Albanian industry has a higher degree of fabrication than that in Kosovo and, possibly, that the use of global industrial output as an indicator for Albanian enterprise plan fulfilment encourages use of purchased inputs more than under worker-management, which seeks to maximise the dividend per employee of value added (see chapter by Laura Tyson). Whatever the cause, such duplicative flows add (on these tentative estimates) 83 percent to Albanian GMP but 101 per cent to that of Kosovo.

The contribution made by the import surplus, nearly all from China, shows itself, in a large but uncertain addition in domestic prices to Albanian NMP produced, though only 8 percent to GTP in foreign-trade prices if trade is valued at 5 leks to the dollar and GTP at 12.50 leks to the dollar. For Kosovo an order of magnitude is suggested by allocating the Yugoslav import surplus *pro rata* to its population. This is not unreasonable as a note to Table I-2 points out, since the finance of Yugoslav central funds to the Kosovo Provincial budget was 396 mn leks in 1970 and an income to the private sector from emigrants' remittances and tourism<sup>16</sup> (although the Albanian minority seeks relief from local underemployment mainly elsewhere in Yugoslavia, rather than abroad) and of equity investment to the self-managed enterprise sector is to be added (though only an export figure is published). On this concept of an import surplus, 22 per cent was added to Kosovo GMP in 1970. In both cases the balance of payments on invisibles is neglected: the external commercial relations of Albanian and Kosovo enterprises are each modest, Kosovo by itself has no diplomatic relations and although Albania has diplomatic relations with over 60 countries, the cost of its embassies and consulates is unlikely to represent a major net outlay over foreign representation in Tirana.

<sup>16</sup> Workers' remittances brought \$350 mn in 1970 (at the Census of March 31, 1971 682,300 workers were abroad), and tourism \$250 mn (4.7 mn tourists visited Yugoslavia that year). There was no emigration from Albania and only a handful of tourists visited the country.

The summation of NMP produced and the import surplus yields NMP distributed, of which (as Table I-2 shows) consumption takes a higher share in Albania than in Kosovo. The difference could all be due to classification, since defence spending is counted in Yugoslavia as consumption but divided in Albania between that and accumulation (military hardware is an inventory in the NMP system). This divergence of practice complicates the assessment of monetization. Albanian auto-consumption (mainly consumption of homegrown food by farmers but including some craft work and repairs) was about 30 per cent of the 'consumption fund',<sup>17</sup> but Yugoslav statistics do not show sufficient detail for Kosovo: the aggregate share of non-monetized consumption in Yugoslavia as a whole was 15 per cent in 1970.<sup>18</sup>

Defence outlays taken together, whether nationally divided between consumption and accumulation, and defined as outlay, defined as such in the budget, were 4.3 per cent of GNP in 1970. This was much the level of other Balkan states, e.g. Greece 4 per cent, Turkey 3.7 per cent before the Cyprus dispute (though these had risen to nearly 7 and 9 per cent respectively by 1975),<sup>19</sup> but a trifle below Yugoslavia (exactly 5.0 per cent of GNP that year).

A comparison of physical indicators of production made in Table I-3 puts an altogether different picture of the relation of Kosovo to Albania. In per capita terms the Kosovar produces more of ten of the indicators there shown, while the Albanian has the lead in three. The energy inputs may not much differ: the much higher coal production in Kosovo is balanced by the large oil output of Albania; the very considerably electricity production of Kosovo is necessitated by an aluminium industry, which has no counterpart in Albania and without investigation of the respective shares of hydropower an energy balance cannot be computed. Exports are about the same, although Kosovo sales to other parts of Yugoslavia are not accountable. Certainly the figures in physical units do not justify as wide a disparity as in the GNP computations and could well demonstrate a reasonable economic parity between the two groups of Albanians.

### C. Manpower

Defence and internal security was estimated by Western authorities to occupy 53,800,<sup>20</sup> while civilian employment was 392,000 on official statistics.<sup>21</sup> No other occupational data have been published since the returns of the Census of October 2, 1960. Although the total population at the July 1, 1969 Census was published, no detail thereof ever appeared.

Table I-4 shows the distribution of the gainfully-occupied at the 1960 Census (military conscripts being assigned to their civilian job group or expected occupation). The considerable proportion then engaged in the private sector has by now largely disappeared, although (as discussed in Section III) the combination is persistent of side-line activity with membership of a cooperative or employment in a state

<sup>17</sup> This is the ratio to personal consumption quoted by *Statistike ekonomikë*, Tirana, 1971, p. 434; Appendix Table II puts it at 28 per cent in 1970.

<sup>18</sup> *Statistički godišnjak*, 1975, Table 106-1.

<sup>19</sup> *Financial Times* (London), 30 November 1976.

<sup>20</sup> *The Statesman's Yearbook*, 1973/74, p. 733.

<sup>21</sup> 30 vjet . . . , p. 41.

enterprise. The official national accounts show the extinction of the private sector as a contributor to NMP in 1967 (from 11.9 per cent in 1960 through 7.2 per cent in 1966). In retrospect 1966 must have been a year in which the private sector of agriculture was being favoured, for whereas individual peasants had received no government loans the previous year, they were given 5,194,000 leks in 1966 (against 52,874,000 to cooperatives) and 271,000 in 1968; the next year the recorded total was a mere 4,000 leks and by 1969 nothing was being given.<sup>22</sup>

As the private sector was eliminated, those occupied entered state employment or maintained their rural occupations as farms were collectivized. As Table I-4 shows state blue-collar employment had more than doubled (2.17-fold increment 1960-73) by the time even this minimal manpower series ceased to appear, and white-collar employment had risen nearly two-thirds (64 per cent rise 1960-73).

The reserves upon which industrialization could draw over the past fifteen years are indicated by the low female participation rate (Table I-5). At the 1960 Census 55 per cent of women of working age (defined as 15-54)<sup>23</sup> were not gainfully employed, though only 11 per cent of the men (defined as 15-59) were in that position. Even more manpower potential is provided by rapid demographic growth. The last official returns put the working-age population at 1.16mn in 1973 and a United States Government projection puts that class at 1.31mn in 1975 on a wider age spread (both sexes 15-64) rising to 1.54mn in 1980. The current five-year Plan gives, however, no employment target for 1980.

The rapid increment of the population in Albania is the factor of production upon which Albania has been able to, and can continue to, rely. As Table I-6 sets out, the 22.5 per mile natural increase of today, while below the peak of the sixties, is among the highest in Europe. A projection of the Secretariat of the United Nations Economic Commission for Europe chooses a gross reproduction rate falling from a 1970-75 estimated experience of 2.37 to 1.28 in 1995-2000 (i.e. the number of female children born to women during their reproductive lifetimes if a given set of age-fertility rates remain in effect). The United States Department of Commerce puts its "medium" projection at a gross reproduction rate of 1.50.<sup>24</sup> With a declining mortality which extends life expectancy at birth from 67.2 years to 70.3 years for males and from 69.9 to 73.4 for females, the former projection puts the Albania population in the year 2000 at 4.3 mn (a 96 per cent increment over three decades). The latter, which shows a rise in the median age from 19.5 years in 1975 to 24.1 in 2000, gives Albania 4.14mn population by the end of the century.<sup>25</sup> No other country even remotely approaches a demographic dynamism of Albania, Albania, although, within a Yugoslav projected growth of 26 per cent ("medium" projection) growth in Kosovo will be close to the Albanian. The average growth for East Europe between 1970 and 2000 would, on the ECE estimate, be 18 per cent (21.5 for all of Europe and the USSR).<sup>26</sup> But from 2.1 per cent of the population of East Europe in 1970, Albania will rise to 3.4 per cent in the year 2000.

<sup>22</sup> *Vjetari statistikor, 1969-70*, p. 109.

<sup>23</sup> *30 vjet . . .*, p. 27.

<sup>24</sup> *Economic Survey of Europe in 1974, Part II*, p. 154 and U.S. Department of Commerce, *Projections of the Communist Countries of Eastern Europe by Age and Sex, International Population Reports, Series P-91, No. 25*, July 1976, p. 10.

<sup>25</sup> *Survey in 1974*, p. 154 and *International Population Reports* p. 4 respectively.

<sup>26</sup> *Survey in 1974*, p. 162.

## THE NATURAL ENDOWMENT

Rapid population growth has doubled the number of Albanians per square kilometer during the period of central planning: from 42 in 1950 to 87 in 1977. The area of the country is 28,748 sq. km. of which in 1969 14 percent was quite unproductive, and 43 percent is under forest. The land under agricultural use comprises 17 percent arable, 3 percent under plantations (mainly vineyards and olive groves, but increasingly citrus orchards) and 22 percent a meadow and pasture. As Table I-6 indicates, the latter have been ploughed up over the two decades, in the second of which a new arable-land campaign was strongly promoted in the highlands. In the earlier postwar period considerable investment in drainage changed the use of the malarial coastal plain from seasonal grazing to intensive cash cropping. Although the First Five-years had ambitiously sought self-sufficiency in grain, the elimination of cereal imports was not attained until 1976, but the achievement was worthy enough. When Albania was a member of Comecon, it was encouraged to concentrate on fruit-growing—a highly valued produce in a group of countries mostly with harsher climates, and—it was alleged when the Elbasan Metallurgical Works, Albania's first, was opened in 1976—to export its iron ore to Czechoslovakia. Once it had launched itself on an independent road, the exploitation of its mineral wealth as much for domestic fabrication as for sale abroad became the watchword.

The mountains of Albania are rich in metalliferous ores. Chromite occurs widely, copper is mainly found between the Drin and Mat valleys in the centre of the country and iron-nickel ores in Pogradec, in the Drin valley and to the west and south of Lake Ohrid. Coal deposits are of poor quality, but the modest prospects for oil were transformed in 1957 with the opening of the Cerrik field, where asphalt bitumen has been exploited since classical antiquity. Hydroelectric potential is considerable and estimated at 2.5 mn kW.<sup>27</sup>

Exploitation of the mineral resources, adequate cutting of forests and supply and marketing for agriculture have all been hindered by the rough terrain in all but the littoral, and opening up has awaited proper communications. Under the Italian occupation a network of motorable roads was begun and work started on the country's first railway. The latter was completed by the present administration and has been extended annually.

Railway building and land melioration works have served *par excellence* the application of manpower to natural resources, for the youth projects of thirty years (but particularly recent) as already observed, are seen by the PLA not only as economic tasks but as political campaigns to bring rural youth, especially girls, out of the restrictive environment of the village and to enthuse townchildren with a zest for patriotic labour.

<sup>27</sup> N.J.G. Pounds, *Eastern Europe*, London, 1969, p. 854.

TABLE I-1.—*Estimate of the Albanian national accounts for 1970*

	<i>Millions of leks<sup>1</sup></i>
Gross material product (GMP) produced.....	7,465
Depreciation.....	-635
Net material product (NMP) produced.....	6,830
Industry.....	(2,896)
Agriculture.....	(2,356)
Construction.....	(697)
Transport, trade, and other "productive" branches.....	(881)
Import surplus.....	2,400
NMP utilized.....	9,230
Household consumption.....	5,990
Civilian social consumption.....	300
Material outlay on defence.....	50
Consumption fund.....	6,340
Net fixed investment.....	2,120
Increment in inventories.....	490
Military hardware.....	280
Accumulation fund.....	2,890
Nonproductive services.....	1,200
Budget-financed.....	(675)
Autonomously financed.....	(390)
Privately financed.....	(40)
Rent (paid and imputed).....	(90)
Gross territorial product (GTP) (GMP plus nonproductive services)....	8,665
Import surplus and income from abroad.....	2,400
Gross national product (GNP).....	11,065

<sup>1</sup> At 1970 or 1971 prices.

Source: See appendix, except for NMP produced by industrial origin (from percentage composition in 30 vjet Shqipëri socialiste, Tirana, 1974, hereafter, 30 vjet \* \* \*).

BLE 1-2.—COMPARISON OF NATIONAL ACCOUNTS IN ALBANIA AND THE KOSOVO PROVINCE OF YUGOSLAVIA  
IN 1970

[In millions of national currency units at current prices]<sup>1</sup>

	Albania			Kosovo		
	Total (million leks)	Per capita (leks)	Percent	Total (million dinars)	Per capita	Percent
NMP utilized .....	9, 230	4, 321	100	3, 172	2, 600	100
Consumption .....	6, 340	2, 968	69	2, 099	1, 720	66
Accumulation .....	2, 890	1, 353	31	1, 073	880	34
NMP produced.....	6, 830	3, 198	100	2, 600	2, 131	100
Industry and crafts.....	2, 896	1, 356	42	968	793	37
Agriculture and forestry.....	2, 356	1, 103	34	953	781	37
Construction.....	697	326	10	259	212	10
Transport and communications.....	197	92	3	89	72	3
Trade and catering.....	627	294	9	314	257	12
Other "productive".....	57	27	1	18	15	1
Depreciation.....	635	297	9	307	252	12
"Nonproductive" services.....	1, 200	562	18	1, 527	1, 251	59
GTP.....	8, 665	4, 057	-----	4, 434	3, 634	-----
Import surplus <sup>2</sup> .....	2, 400	1, 123	35	572	469	22
GNP/GDP.....	11, 065	5, 180	-----	5, 006	4, 103	-----
GMP produced.....	7, 465	3, 495	100	2, 907	2, 383	100
Inter-enterprise transfers.....	6, 195	-----	83	2, 952	-----	102
Gross social product.....	13, 660	-----	-----	5, 859	-----	-----

<sup>1</sup> As noted in text, conversion rates to the U.S. dollar are 12.50 dinars and 12.50 leks, so that national units may be directly compared.

<sup>2</sup> Includes for Albania price differential on internationally traded goods and errors in compilation of accounts; for Kosovo estimate of current and capital flows from other parts of Yugoslavia and from abroad.

Source: Albania from table 1-1, except for the subdivision of "other productive" branches which was computed from the index numbers of net contributions to NMP from 1955 to 1960 in Vjetari statistikor, 1967-68, p. 107 spliced to that from 1960 to 1969 in *ibid.*, 1969-70, p. 105 applied to the relative shares in NMP of 1955 in Anuari statistikor, 1958, p. 134 as under: Transport and communications, 1.8 percent $\times$ 4.56; trade and catering, 7.0 percent $\times$ 3.75; other "productive," 0.7 percent $\times$ 3.45. It was assumed that the 1970 share was the same as 1969 and was applied to the 1970 aggregate of 881,000,000 leks shown in table 1-1. Kosovo data are official Yugoslav estimates from Statisticki godisnjak, 1975, tables 204-3 and 204-4 except for import surplus, the national entry for which was allocated to Kosovo. The "additional resources" provided to the Kosovo budget in 1970 were 396,000,000 leks (*ibid.*, 1971, p. 459). The actual import surplus from abroad was not published; Kosovo exports in 1973 were 768,000,000 leks but imports are not published.

TABLE 1-3.—PHYSICAL-UNIT COMPARISONS OF ALBANIAN AND KOSOVAR ECONOMIC ACTIVITY IN 1970

(i) AGRICULTURAL OUTPUT				
	Albania		Kosovar	
	Thousand tons	Kilograms per capita	Thousand tons	Kilograms per capita
Wheat .....	227	106	201	164
Rye .....	9	4	7	6
Barley .....	5	2	20	16
Corn (maize) .....	258	121	240	196
Sunflower seed .....	18	8	6	5
Potatoes .....	79	37	60	49
Sugar beet .....	117	54	56	46
Cotton .....	15	7		

(ii) LIVESTOCK NUMBERS AT END OF YEAR				
	Albania		Kosovar	
	Thousand head	Number per thousand population	Thousand head	Number per thousand population
Cattle .....	408	191	327	268
Hogs .....	115	54	50	41
Sheep .....	1,201	562	519	425

(iii) MINING OUTPUT				
	Albania		Kosovar	
	Thousand tons	Kilograms per capita	Thousand tons	Kilograms per capita
Coal .....	606	283	3,982	3,264
Oil .....	1,486	696		
Iron-nickel ore .....	401	187		
Pyrites concentrate .....			66	54
Chrome ore .....	466	218	1,010	828
Copper blister .....	6	3		
Lead-zinc ore .....			1,440	1,180
Bauxite .....			206	169

(iv) INDUSTRIAL OUTPUT				
	Albania		Kosovar	
	Thousand tons	Kilograms per capita	Thousand tons	Kilograms per capita
Cement .....	345	162	75	61
Electric power .....	1,944	2,442	1,769	2,450
Cotton textiles .....	310	45	9	67

(v) EXPORTS				
	Albania		Kosovar	
	Amount (millions)	Per capita	Amount (millions)	Per capita
Exports .....	\$93	44	7,548	39

<sup>1</sup> Million kilowatt hours.

<sup>2</sup> Kilowatt hours per capita.

<sup>3</sup> All textiles, million square metres.

<sup>4</sup> All textiles, square metres per capita.

<sup>5</sup> Million square metres.

<sup>6</sup> Square metres per capita.

<sup>7</sup> 1973.

Source: Vjetari statistikor, 1971-72, pp. 66-68, 86-94 and 107 and table V-1 for Albania; Statisticki godisnjak, 1971, pp. 381-2 and 406-10 and Statistika spolnje trgovine, 1975 for Yugoslavia.

TABLE I-4.—DISTRIBUTION OF GAINFULLY-OCCUPIED IN ALBANIA

[In thousands]

	1960			1970 State	1973 State
	Total	State	Cooperative		
Workers.....	164.1	149.3	0	14.8	307
Employees.....	64.6	57.3	0	7.1	85
Farmers.....	482.6	( <sup>1</sup> )	323.3	159.3	106
Artisans.....	16.5		13.6	2.9	
Merchants.....	1.6		.6	1.0	
Free professions.....	.2			.2	
Clergymen.....	1.1			1.1	( <sup>2</sup> )
Unclassified.....	.2				
<b>Total.....</b>	<b>730.8</b>	<b>206.8</b>	<b>337.8</b>	<b>186.4</b>	
<b>Total population.....</b>	<b>1,626.3</b>				<b>2,297</b>

<sup>1</sup> State-farm staff are classified as either "workers" or "employees."<sup>2</sup> All 2,169 mosques and churches were forcibly closed in 1967 and the country was declared "the first atheist state in the world."

Source: Census of Oct. 2, 1960 from Vjetari statistikor, 1965, p. 76, separation of state workers and employees from annual averages of 1960 and 1961 (ibid., p. 111) interpolating for 3 mo from mid-year to October; 1970 and 1973 state employment from 30 vjet, p. 41 and of population, ibid., p. 21.

TABLE I-5.—PARTICIPATION RATES IN ALBANIA

[In thousands]

	Total working of working age	Not gainfully occupied	Total of working age
<b>1960:</b>			
Both sexes.....	627	176	803
Males.....	387	42	429
Females.....	240	133	373
<b>1973:</b>			
Both sexes.....			1,162
Males.....			616
Females.....			547
<b>1975:</b>			
Both sexes.....			( <sup>1</sup> ) 1,305
Males.....			1,685
Females.....			1,627
<b>1980:</b>			
Both sexes.....			1,535
Males.....			1,796
Females.....			1,738

<sup>1</sup>Population 15 to 64.

Source: 1960 from Vjetari statistikor, 1965, p. 77; 1973 from 30 vjet, pp. 21, 27; 1975 and 1980 computed from demographic projections in U.S. Department of Commerce, Projections of the Population of the Communist Countries of Eastern Europe by Age and Sex, International Population Reports, Series P-91, No. 25, July 1976, p. 48.

TABLE I-6.—DEMOGRAPHIC EXPERIENCE IN ALBANIA

[Crude rates per mille]

	Birth	Deaths	Natural increase
1950.....	38.5	14.0	24.5
1960.....	43.3	10.4	32.9
1970.....	32.5	9.2	23.3
1973.....	30.4	7.9	22.5

Source: 30 vjet\*\*\*, p. 33.

TABLE I-7.—LAND USE IN ALBANIA  
 (Thousand hectares)

	1950	1969
Arable.....	374	501
Orchards.....	3	28
Olive groves.....	11	33
Vineyards.....	3	12
Meadows.....	32	10
Pasture.....	784	635
Forest.....	1,282	1,238
Lakes, marsh, rivers, rocks, slopes and roads.....	376	396
Dwellings.....	10	16

Source: Vjetari statistikor, 1969-70, pp. 60-1.

## II. PLANNING AND MANAGEMENT\*

### A. Albanian Planning, 1945-1965

This section discusses the development of the contemporary Albanian economic planning system in terms of attempts made by the PLA since 1945 to establish a set of system rules which would yield desired economic outcomes. It is argued that the PLA leadership has maintained three major goals throughout its period in power and that the economic system today is the direct product of attempts to meet these goals subject to various constraints. These aims are to remain in power, to achieve the fastest possible rates of growth, particularly in industry, and to ensure that the PLA has the strongest possible direct influence on all economic outcomes. A major constraint on the first goal has been the PLA's determination to enter into external economic relations only when it has been convinced that its power to make its own decisions on domestic matters would be unimpaired. The policy aspects of these issues are considered at length in section IV and in Part III of this volume in the paper "Trade and Aid in the Albanian Economy."

By the time the PLA had come to power in Albania in 1945, the leadership had already formulated the basis on which planning methods were to be elaborated in the future. The argument was for central planning of the economy with tight control over the operation of the law of value—that is, the role of commodity-money relations—in the state sector.<sup>28</sup> To the extent that this condition would be fulfilled by Stalin's classic Soviet model the PLA intended to introduce the complete system of plan indicators as soon as possible. However, they faced unique environmental constraints which precluded the immediate establishment of so complex a system in the country. First, Albania had virtually no industry to plan, but what did exist was spread thinly in small plants across the country. Second, the low level of education of the population meant that there would have been insufficient people to man a strong central bureaucracy. Finally, although the PLA leadership wanted a powerful state economic administration, it was already arguing against its action as an "excessive or restrictive bureaucracy", suggesting that "the broad masses should take part in it on a large scale".<sup>29</sup> Hoxha was probably already

\*This section was prepared and written by Adi Schnytzer. See end of section for tables related to section.

<sup>28</sup> E. Hoxha, *Selected Works*, Vol. I, Tirana, 1974, p. 669.

<sup>29</sup> *Ibid.*, p. 671.

aware at this early stage that since he came to power without Soviet backing and was not happy about a Yugoslav presence in Albania, his survival as PLA chief would only be possible if he used his initial popular support as leader of Albania's liberating army to consolidate his power base. To this extent it might have proved imprudent to attempt to rapidly restructure a society recently ravaged by war. The measures actually taken to establish the classic Soviet model in Albania may be summarised as follows.

Nationalisation of all public utilities and foreign-owned capital was the first step in the post-war reconstruction programme. This was completed in 1946 and was followed in the same year by the nationalisation of domestically-owned means of production and foreign trade. By early 1947 what little there was of Albanian industry was in the hands of the state.<sup>30</sup> These measures allowed the State Planning Commission—which had been given its autonomy from the Economic Council and made directly subordinate to the Council of Ministers a year earlier—to draw up the country's first national plan, the nine-month plan of April-December 1947. This plan is reported to have been relatively simple in the sense that it covered only the manufacturing, mining and agricultural sectors of the economy and that only output targets for a small number of goods were detailed in the plan. These targets were given in physical rather than monetary terms and global indicators such as total industrial production or its rate of growth were not planned.

At the enterprise level 1947 saw the introduction of the Soviet autonomous accounting system *khozraschet*. Having instituted this "system" the Albanian planners were able to draw up a more sophisticated plan for 1948 than had previously been possible. Whereas the 1947 production plan was made up of selected output targets in physical units, the new plan provided more detailed specifications for the enterprise, material balances and norms of input utilisation being used in plan formation for the first time.<sup>31</sup> In 1947 investment had been undertaken as various projects required it, whereas in 1948 an attempt was made to plan capital investment for projects ranked according to planners' preferences. In addition to the more complex planning of 1948 the Albanian government introduced various organisational practices borrowed from the Soviet Union: the most important among these was the introduction of socialist emulation campaigns.<sup>32</sup> At the same time the government was in the process of drafting a five-year plan which, however, never came into being due to conflict with Yugoslavia and it was not until 1951 that the First Five-Year Plan was launched. It was drawn up essentially as material balances for a limited number of commodities and until 1956 planning remained at this simple level.

However contrary to the Party's stated aims the state administration had expanded very rapidly. So much so, that by 1953 "such an apparatus weighed heavily on the people's economy, weakened its management and opened the road to bureaucracy".<sup>33</sup> This led in the same year to a scaling down of the state administration and mass organisations by 30 per cent, those losing their jobs being transferred

<sup>30</sup> N. E. Boçari, *Shtetëzimi i mjeteve të prodhimit në R.P.Sh.*, ("Nationalization of the Means of Production in P.R.A."), Tirana, 1973.

<sup>31</sup> B. Bardhoshi, *Probleme të planifikimit dhe të zhvillimit të ekonomisë së planifikuar në R.P.Sh.*, ("Problems of Planning and Development of the Planned Economy in P.R.A."), Tirana, 1965, p. 103.

<sup>32</sup> *Ibid.*, p. 104.

<sup>33</sup> *History*, p. 351.

to industrial and farm work. While the official reason given for this move may have some validity, it should be noted that similar changes took place elsewhere in Eastern Europe at the same time implying that Soviet policy may have been an important factor. Further, it is possible that the PLA wished to remove politically undesirable people from the hierarchy simultaneously providing industry and agriculture with additional workers.

In 1956, a money balance of household incomes and expenditures was established and national product by origin was computed.<sup>34</sup> The level of planning in Albania during the Second Five-Year Plan (1955-60) was raised annually until by 1959 the complete Soviet system of plan indicators had been adopted.<sup>35</sup>

The internal organisation of industrial enterprises was as highly centralised as the economy as a whole. It was based on the concept of "one-man leadership" (*udhëheqje unike*), and in the financial sphere on *khozraschet*.<sup>36</sup> In terms of the Chinese notions of "expertness" and "redness" the former reigned supreme. From the viewpoint of economic decision-making power, the enterprise director was completely under the control of the relevant ministry or the Executive Committee of the People's Council. Workers' interests were supposedly in the care of the Trade Union organs, whilst the grass-roots Party organisations were responsible for the ideological and political education of the working class.

It should be noted that neither the death of Stalin nor his denunciation by Khrushchev in 1956 had had any immediate implications for the practice of economic planning in Albania. The position of the worker in the Albanian economy remained, until 1965, as it had been in 1959. He had no effective part to play in enterprise decision-making and had to rely on the trade union organisation to protect his material interests. Neither was there any significant change in the overall spread of decision-making power in the economy, the shift in allegiance from the Soviet bloc to China having had no apparent impact in Albanian thinking.

However, by 1965 it had become clear that the Albanian leadership was not satisfied with the outcomes generated by the economic system.

The Third Five-Year Plan target for global industrial production was 97 percent fulfilled.<sup>37</sup> Taking into account the economic difficulties caused by the Soviet Union's economic blockade, it would seem that the industrial sector of the Albanian economy had performed well over the period 1961-65. However, it should be recalled that following the split with the Soviet Union in 1961 there was a drastic downward revision of plan targets and, as the discussion in Section III shows other sectors of the economy fared less well than industry. Thus, under admittedly difficult environmental circumstances, the classical Soviet model of economic administration was not producing economic growth rates to satisfy the leadership. More seriously, it has been suggested that economic failures were "a major factor in triggering off the unrest that began to spread through

<sup>34</sup> M. C. Kaser, "Albania", in H. Höhmann, M. Kaser and K. Thalheim, *The New Economic Systems of Eastern Europe*, London, 1976, p. 253.

<sup>35</sup> B. Bardhoshi, *op. cit.*, pp. 156-157.

<sup>36</sup> I. Elezi, *Bazat e shtetit dhe të së drejtës së R.P.Sh.*, ("The Basis of the State and Law in P.R.A.") Tirana, 1959, p. 191.

<sup>37</sup> Dokumenta Kryesore PPSH ("Major Documents of the PLA"), Vol. V, Tirana, 1974, p. 207.

Albania during 1965 and 1966".<sup>38</sup> In other words, Enver Hoxha's position as leader of the PLA was in jeopardy and this, probably more than any other factor indicated the need for change.

The existence of various bureaucratic disfunctions in the state apparatus, notably "excessive memos, unnecessary reports and countless documents" was noted in the Albanian press in 1965.<sup>39</sup> An unsigned article in *Zëri i Popullit* also hinted at the possible existence of disguised unemployment in the state sector of the Albanian economy.

When asked why the Ministry of Agriculture continually requested useless information, "after a slight hesitation an old specialist said, 'If one abolished unnecessary forms, many employees of the Ministry would be idle'".<sup>40</sup>

There is also evidence to suggest that the administration of enterprises was rather inefficient, absenteeism being very high.

Thus, for example, . . . absenteeism without reason in 1963 in Durrës Port amounted to 8.8 per cent of work time. By September 1965, that is, during an eight month period, the economic enterprises in Durrës district has lost more than 40,000 days of enterprise work potential. In counting the number of days lost, we estimate a loss of 100 workers per day whose production, had they worked, would have been valued at more than 8 million new leks. It is obvious that the loss of work hours in some enterprises has resulted in an increase in wages, and as a result, an increase in costs.<sup>41</sup>

Although it is not specified, the increases presumably refer to wages and costs per unit of output, the implication being that workers are paid even when they do not report to work regularly. It seems reasonable to argue that the extent of absenteeism in Albanian enterprises was one of the factors influencing the government to increase party and trade union influence at the grass-roots level in late 1965.

The poor quality of output and inefficient utilization of inputs were also criticised at the time.<sup>42</sup>

Finally, the method of evaluating enterprise performance came under fire.<sup>43</sup> First, it was argued that, while global indicators such as the total volume of production were useful in expressing the "dynamics of development", enterprise performance should be evaluated on the basis of more detailed indicators such as output mix and quality of products. The second criticism involved the use of labour productivity measured in value terms as an indicator of plan fulfilment. It was argued that using this indicator led enterprises to produce only those goods with relatively high prices and high per unit capital requirements. It should be noted that this criticism is directed at the notion of the price system allocating resources rather than at defects in the existing set of prices.

### B. *The Reorganization of the System, 1965-66*

The first signs that system rules would be changed appeared early in 1965 in press reports exhorting trade union organizations to do more educative work with the masses, not only in the form of lectures

<sup>38</sup> N. C. Pano, *The People's Republic of Albania*, Baltimore, 1968, p. 175.

<sup>39</sup> *Zëri i popullit*, December 26, 1965, p. 2.

<sup>40</sup> *Ibid.*

<sup>41</sup> *Zëri i popullit*, January 12, 1966, pp. 2-3. The 8.8 percent was doubtless an unusual case (though not abnormal in the West among dockers); since absence in East Europe is 4 percent of work day potential.

<sup>42</sup> *Zëri i popullit*, several issues late, 1965 and early 1966.

<sup>43</sup> *Ekonomia popullore*, No. 1/1966, pp. 3-12.

and conferences, but also at the work-bench. It was further argued that praise, as well as criticism, was necessary to raise the morale of the workers. The work of enterprise directors was also criticized at the time, it being suggested that they were not explaining directives to the workers. It was also argued that a director must be a "partyist" strictly following the "party-line".<sup>44</sup>

In October 1965 the PLA took a further step, apparently attempting to reduce the level of popular unrest, when its Central Committee, in conjunction with the Council of Ministers issued a call to the masses to participate in drawing up the Fourth Five-Year Plan.<sup>45</sup> In the document, it was explained that Albania was surrounded by imperialist and revisionist enemies, and was being subjected to an economic blockade and that, therefore, would have to build socialism relying on its own resources. It seemed clear to the leadership that since the workers of Albania knew best their own capabilities and probably the capacities of their enterprises, it was only possible to draw up a "just, real, mobilizing and revolutionary" plan if the workers were involved.

It was argued that investments and construction projects should be "more profitable, timely and essential". Workers were exhorted to approve plans which minimized expenses and waste and party members were reminded that their duty was to further the "ideo-political" education of the workers. The only specific change in planning introduced in the Appeal was that henceforth workers in enterprises would discuss broad plan targets, which the enterprise would use in drafting a detailed project plan rather than be sent a detailed plan from the state hierarchy.

The precise nature of these discussions and the real extent of worker participation in them is difficult to gauge although some light is thrown on the issue by an article in *Zëri i Popullit*, reporting on the November 1, 1965 plenum of the Central Council of Albanian Trade Unions.<sup>46</sup> The situation in the Stalin Textile Combine was brought up as an example of a good approach to the planning problem:

The combine management and the trade-union committee there bring out the key problems which determine the successful realization of the duties of the plan. The administrations of factories examine the technical-economic indices down to each worker and machine, they extract the results achieved by the best workers and these, along with the propagandistic work for illuminating the political and economic importance of tasks, are placed in discussion in the brigades, complexes, shifts and departments. In such an atmosphere of active, concrete and responsible work, the workers give their highly valuable ideas not only about advancing the index of the plan, but also about steps for the successful completion of it. During the discussion of the pilot plan for 1966, 613 workers spoke here. Such efforts have had an influence on the increase of the mobilization of all workers for fulfilling their tasks.<sup>47</sup>

By contrast, the draft proposals for the 1966 plan in the Shkoder district were presented to the workers by enterprise management as a *fait accompli*, trade union officials often being absent from the meetings. This situation, the Plenum emphasized, should not occur in the discussions of the Fourth Five-Year Plan. The emphasis of the change in approach to planning is clearly laid on greater propaganda efforts by the trade unions, and it is suggested that discussions in

<sup>44</sup> See, for example, *Ekonomia Popullore*, Nov. 1, 1965, pp. 3-19.

<sup>45</sup> *DK*, vol. IV, pp. 539-557.

<sup>46</sup> *Zëri i popullit*, November 3, 1965, p. 2.

<sup>47</sup> *Ibid.*

small groups—even down to brigade level—would prove more useful than large meetings: “Study on a group basis, as well as the separate discussion of the production or service plan, of labor productivity, of the capacity of the machinery of standards of use of materials, etc., would be more effective”.<sup>48</sup>

Finally, the plenum argued that only by bringing workers into the planning discussions fully, could enterprise managers be prevented from drawing up minimum production plans with inflated resource requests. Implicit in this argument is the assertion that notwithstanding—and perhaps as a consequence of—the highly centralized nature of the classic Soviet model it was not possible to ensure congruence between management and hierarchy goals. Thus, the greater involvement of workers in plan discussions may be seen as an attempt to supplement hierarchical pressure on directors with Party-led pressure from below. The plausibility of this hypothesis is reinforced by the ideological measures introduced since 1966 which are discussed later in this section.

The second series of changes in system rules involved the shift, in the middle of 1965, of artisan cooperatives and several enterprises from ministerial to local district control. While the majority of plan indicators required Council of Ministers approval at this time, the partitioning of the hierarchy prepared the way for the decentralization in economic decision-making power which was to follow early in 1966:

*Decision No. 15 of the Council of Ministers*, dated February 17–21, 1966, ‘On the Fundamental Principles of the Methodology of Planning’ outlined the changes in the Albanian planning system intended for the period of the Fourth Five-Year Plan, 1966–1970. Although the *Decision* does not appear to have been published, its contents are discussed in detail by the Albanian economist, A. Backa, who begins with a definition of the planning methodology as:

... the general criteria and special instructions concerning the drafting of plans for each activity, the special indicators, the nomenclature of indicators and the examples of preliminary plans at all levels, the route of planning and the schedules, broadly employing the averaging and balancing methods.<sup>49</sup>

After giving an outline of the development of the planning methods in Albania, Backa pointed out that the *Appeal* had revealed the need to revolutionize the planning system and described the projected changes.

There were three major steps in the system of plan formation operative between 1949 and 1966. In March of the preplan year a draft of the plan was sent from the centre to the enterprises (the ‘quota phase’). The enterprise then sent their revisions back to the centre (the ‘preliminary plan phase’) so that the State Planning Commission could co-ordinate the various plans and pass the final version on to the Council of Ministers for approval by November 15. The final approved plan was then sent back to the enterprise as law. In addition to this procedure, import and export plans were drawn up separately in June of the preplan year and revised (to co-ordinate with the state plan) in November. Finally, in the old system, quotas for imports and construction project outlays were set annually.

The new methodology simplified these procedures considerably. The quota phase of plan formation was eliminated and the remaining

<sup>48</sup> *Ibid.*

<sup>49</sup> *Ekonomia popullore*, No. 2, 1966, pp. 14–27. The following discussion draws heavily on this article.

two stages were rescheduled in the following way; in June, national enterprises and in July, Executive Committee of *rreth* People's Councils, send their preliminary draft plans to the relevant central organ. It should be noted that the plans sent by Executive Committees relate to small enterprises whose products are of predominantly local importance, and which have no planning sections of their own. Upon receipt of the preliminary plans, the various central organs process and co-ordinate their respective plans and send them to the State Planning Commission in August. During September the State plan is drawn up and approved by the Council of Ministers. Further, the import plan is now drawn up as part of the general planning procedure and figures from the five-year plan are used as guides to imports and construction project outlays, replacing the previous annual quota system.

In addition to these changes in scheduling, the *Decision* altered the nature of the plan indicator system drastically. There was a significant reduction in the number of indicators in the state plan so that only those essential for determining the main directions of economic and cultural development were included. Thus, whereas prior to the change the plan contained 550 indicators relating to industrial production which had to be approved by the Council of Ministers, the number of such indicators now dropped to 77. Unfortunately, the precise nature of these indicators is not known. Similar changes took place for all sectors of the economy, the relevant figures for agriculture being 320 down to 42 and in investment and construction 100 items require approval by the Council of Ministers where previously the number had been 500. One specific change should be noted because it had important repercussions: the banking system's control over investments was removed.

These reductions in plan indicators were accomplished by decentralising the power to make many decisions which the Council of Ministers had previously taken. The recipients of the new powers were the ministries and the Executive Committees of the *rreth* district councils. In industrial planning, only targets for major products would now be presented to the Council of Ministers in aggregate, whereas before the change these targets were disaggregated by the enterprises and were presented along with other indicators (now eliminated) such as a number of secondary products, products of local importance, technical and economic indicators for various branches, tasks for new product output, scientific research projects, prospects for the mechanisation of labour and other improvements in technology.

In the trade sector, the distribution and material and technical plans were combined, only the total sales being approved on an index by the Council of Ministers. Similar aggregation occurred in labour planning, the Council of Ministers approving only the projected totals of administrative workers and their wages, and productivity indices for industry and construction. Finally, the Council of Ministers now approves plans annually where previously it had been done quarterly.

These simplifications in the plan sent to the Council of Ministers for approval did not, however, imply a simplification in the plan itself. The enterprises were required to draw up plans which were as

detailed as before the change. The difference lay in the level of the hierarchy made responsible for dealing with the particular issues. The relative positions of the ministries *vis a vis* the Executive Committee would appear to be that generally the ministries received more power with respect to plan formation whereas the Executive Committees were expected to become more involved in ensuring plan implementation. Thus, under the old system the detailed plans, by *rreth*, for all production of national importance, transportation, trade, turnout, investment and construction, education, culture and health, were approved by the Council of Ministers. The *rreth* plans for supply, distribution of local products, the work force, productivity, wages, costs and a number of other technical and economic indicators were the competence of the relevant ministry. According to the *Decision*, the detailing of all the above-mentioned plans would be done by ministries and sent to the relevant Executive Committee for co-ordination and supervision of implementation.

The final type of change made by the *Decision* was in the method of enterprise performance evaluation. On this point, however, Backa was unclear. He states that global indicators such as the total value of output would no longer be the primary criteria for evaluation, arguing that both enterprises and ministries would be responsible for the fulfillment of plans in quantity and quality. However, Backa gave no indication of the nature of penalties and rewards associated with plan fulfillment under the new or old systems. In view of the pay cuts which were to be announced in March, 1966, it seems unlikely that material incentives predominated in the reward system. On the other hand, it is possible that the change in evaluation of enterprises was essentially an academic matter, its mere announcement being intended to influence the behaviour of enterprise directors.

Prior to a consideration of outcomes arising from these *sensu stricto* economic system rule changes, the ideological campaigns superimposed on the new planning system must be described. In February, 1966 the PLA Central Committee issued a statement noting that in response to the *Appeal* many cadres had volunteered to work in production. The *Appeal* had initiated a process of social metamorphosis whose high point was yet to come.

### C. The Ideological Campaigns

On March 4, 1966 the General Committee of the PLA issued an *Open Letter* to the population,<sup>50</sup> the immediate consequences of which included a reduction by 15,000 in the number of state administrative employees, the abolition of military ranks and the introduction of political commissars in the military units, the dispatching to the countryside of several intellectuals, managers and party officials and the replacement of an unspecified number of cadres in executive positions. There was also a reduction in wage differentials, highly paid Albanians suffering a reduction in salaries. This anti-inflationary measure has since been used on several occasions, most recently on April 1, 1976.

While it is possible that the Albanian leadership considered the reduction in state administrative employees to have been facilitated by

<sup>50</sup> *Zëri i popullit*, March 4, 1966, pp. 1-3.

the changes in economic planning resulting from the *Decision*, the crucial implication of the *Open Letter* was an increased emphasis on the politicisation of life—using again Chinese terminology, “redness” was now to be placed above “expertness”. From the workers’ point of view, it is clear that attempts had been made to bring workers closer to the process of plan determination, however the Albanian worker was still subject to a Labor Code which, though recently modified, contained penal sanctions and did little to encourage a sense of participation in the running of the economy. In September, 1966, the changes which were apparently sweeping Albanian society found their way to the worker when the new Labor Code was issued.<sup>51</sup>

Whereas the old Labor Code had 264 articles, the new one has only 63. All reference to penal sanctions against workers is gone and the new Code has a decidedly revolutionary tone. It should be noted that the role of the trade unions has changed dramatically compared with the role they formally played.

Although the Code allows them a significant consultative role, any economic decision-making power they had ever had in the past has been transferred to the state hierarchy. The mobilisation and education of workers is now seen as the major task of the trade unions and there are stipulations which allow the establishment of worker’s control commissions in enterprises. One of the articles is significant in that it attempts to discourage overtime work as a means of increasing income. Rather, the trend has been towards voluntary “overtime” work and there are many cases reported in the Albanian press of workers who have finished their jobs for the day helping in the construction of flats, schools, etc. Here, as in the case of the planning discussions, the distinction between coercion and persuasion, and desired and actual implementation, are difficult to make.

Although the 5th Congress of the PLA took place in November, 1966, only a month after the appearance of the new Code, no mention was made of it by either Enver Hoxha or Mehmet Shehu in their respective speeches. There was, however, continued reference to workers’ participation in planning, the revolutionisation of life and the on-going fight against bureaucracy.<sup>52</sup>

In a speech made on February 6th 1967, Enver Hoxha stressed that in solving problems of organisation which arise in the state enterprise

... the only correct and complete judgement is the check up of the collective which verifies and should verify the case. This means “the control by the masses” and “policy of the masses” all without exception should submit to the judgement of the masses on their work and conduct in society. The communists should submit to a twofold control to that of the Party, and to that of the masses.<sup>53</sup>

When new directors or other senior or technical staff were appointed to an enterprise, Hoxha argues the new man should go before the workers’ collective, and give “a frank account of himself so that the masses may pass judgement on him.” Further, the new employee or director should be told that if he blunders ‘we will pull your ears whereas if he keeps making mistakes

We will throw you overboard and bear well in mind that there is no one who can help you; the Party is ours, the regime is ours, it is we who are in power, it is the dictatorship of the proletariat which reigns. . . .<sup>54</sup>

<sup>51</sup> *Përmbledhëse e përgjithshme e legjislacionit në fuqi të R.P.Sh* [1945-1971], (“General Collection of Legislation in Force in P.R.A.”), Tirana, 1971, pp. 89-100.

<sup>52</sup> *D.K.* Vol. V, pp. 60-227 gives the proceedings of the Congress.

<sup>53</sup> E. Hoxha, *Speeches 1967-8*, Tirana, 1969, p. 31,

<sup>54</sup> *Ibid.*, pp. 33-34.

With respect to displays of bureaucratism the solution rests again with the workers.

. . . the labouring masses should by all means and without hesitation knock down the director of this type or any other functionary of this kind, whoever and of whatever rank he may be in the Party or the government.<sup>55</sup>

One mechanism whereby this workers' control would take place would be in the wall bulletin. Albania, along with all the other socialist economies of Eastern Europe, had always used wall posters in their state enterprises, but Hoxha gave his opinion of these and was explicit about the need for changes.

. . . do away with the existing and very ridiculous wall bulletins and turn them into revolutionary wall bulletins which will help revolutionary education. Do away with these wall bulletins with their editorial boards of opportunist scribblers who uphold the dignity and authority of the director and of themselves at the same time, and that everyone write what he thinks of work and of the people in bold face letters and without fear.<sup>56</sup>

Hoxha also stressed the need for improving the circulation of cadres through the economy, all administrative and office workers should spend no less than 100 days of every year in production work—the period was shortly afterwards reduced to one month—and directors of enterprises should be changed regularly to prevent their “bureaucratic stagnation.”

The implications of Hoxha's speech for workers' control were apparently significant. In several enterprises workers were reported to have been instrumental in solving problems of plan realization where state administration had failed.<sup>57</sup>

In addition to these spontaneous displays of workers' control, Hoxha's speech also allegedly gave rise to

. . . initiatives for the establishment of a revolutionary workers' control by organizing various control groups to deal with all the economic problems related to the successful implementation of the plans, and the regulation of all work in enterprises. Some of these are control groups to check the quality of products, the maintenance and exploitation of machinery and the material inventory of the enterprise, etc.<sup>58</sup>

The trade unions were responsible for the organization of elections to the commissions ensuring that candidate workers were ideologically and politically motivated. However, once elected, the commission was to be free to examine all aspects of the functioning of its enterprise, though its powers were advisory. Any significant problem it encountered was to be communicated to the entire collective of the enterprise, and management was expected to find a solution. The trade unions and party organs within the enterprise would doubtless be instrumental in applying pressure to the enterprise administration to ensure the effectiveness of the workers' control.

It is possible to draw several conclusions on the basis of the foregoing discussion. Firstly, it is difficult to gauge the extent to which Hoxha was serious when he asked workers to criticize freely. However, even if he should be taken literally, the existing superior-subordinate relationships which had up until then been officially endorsed could not be expected to change rapidly. Second, if the reports concerning improvements in efficiency resulting from the action of workers' control are true—and there is no reason to doubt them—it is clear that

<sup>55</sup> *Ibid.*, pp. 50–51.

<sup>56</sup> *Ibid.*, p. 55.

<sup>57</sup> *Zëri i popullit*, July 5, 1967, p. 2.

<sup>58</sup> *Ibid.*

the organization of inputs to the production process in Albanian enterprises was far from optimal. It is also an indication that the changes made in the planning system in 1966 were not yet contributing significantly to enterprise efficiency. Third, it can be seen that the functions of the workers' control commissions were two-fold. In the first place, the commissions were organs of control, ensuring that both the administrators and workers' collectives of the enterprises worked towards consistently fulfilling plans. Their second function—integrally linked with the first—was to motivate fellow workers.

It is clear that the movement for workers' control in Albania may be viewed as a logical extension of the attempts to involve the workers in planning. The distinction between these two increments of perceived participation is that, whereas the discussion of plans was intended for all workers, control functions were limited to the elected commissions. That these commissions began finding difficulty in their work became evident at the beginning of 1968. An article in *Bashkimi*<sup>59</sup> noted that over a nine-weekly period in 1967 egg breakages had not been entered as a loss in the accounts of the Mat district cooperatives. The workers' control commission was criticized for failing to properly safeguard communist property. However, the most common and not unexpected problem faced by the commissions appeared to be interferences from administrator;

... the efforts of some bureaucratic administrators to channel the control of workers' commissions into a bureaucratic framework according to "Rules and Regulations" only shows their fear of the masses' revolutionary momentum. There is no other way to explain the tendency of some administrators to "institutionalize" and to keep the workers' control under "control".<sup>60</sup>

Shortly after this revelation of bureaucratic hindrance the nature of workers' control in Albania was changed, taking on the form it has retained until the present time. The change arose as a consequence of a speech made by Enver Hoxha on April 19, 1968, entitled "Working Class Control".<sup>61</sup> In it, Hoxha criticized the workers' control commissions as having yielded no positive results: "not only this, they have become bureaucratic elements, they have eliminated the grass roots control, they have replaced the trade unions committees, people from the administration have entered them as heads of the commissions" and this led to "marked manifestations of revenge towards the workers' criticisms." Consequently, Hoxha argued, while commissions composed entirely of workers might provide some measure of improvement, it would be best if the commissions were replaced entirely by "direct workers' control".

Thus, committees of worker control would henceforth be elected on an ad hoc basis as particular problems arose and their membership would be limited to workers engaged directly in production.

The change in the nature of workers' control in Albania may also be explained in terms of the hypothesis formulated earlier; namely, that if this type of control was primarily intended to put pressure on the enterprise director during the period of plan implementation—the plan having been drafted with the assistance of the worker participation mechanism—allowing representatives of management to sit on the commissions would possibly dilute their impact. The above-cited attempts by management to "control" the commissions lends weight

<sup>59</sup> *Bashkimi*, January 24, 1968, p. 2.

<sup>60</sup> *Zëri i popullit*, February 22, 1968, p. 2.

<sup>61</sup> E. Hoxha, *op. cit.*, pp. 221-250.

to this conjecture. Hoxha's proposal that control groups should only be elected when necessary might be expected to increase the flexibility of local party organs while limiting the possibility of undesired liaison between a permanent commission and management. However, the ultimate success or failure of workers' control must rest on the extent to which workers are motivated to act as a pressure group on management. The reductions in high salaries, the insistence that cadres participate in physical production and the constant propaganda impact of the mass media and the education system may be expected to operate in favour of the achievement of the PLA's goals, but there is insufficient evidence available to draw any concrete conclusions on this issue.

#### *D. The Outcomes of the New System*

The Politbureau report<sup>62</sup> to the Sixth Plenum of the PLA Central Committee of September 27, 1968 provides evidence that the leadership was not satisfied with the outcomes of the ideological campaign. In the report Ramiz Alia clarified the ideological motivation for the measures which had been carried out and pointed out areas in which the "revolutionization" of society was encountering problems. With respect to ideology Alia noted that:

... socialist revolution is uninterrupted evolution. It doesn't end either with the seizure of the reins of state or with the building of the economic base of socialism. The whole process of socialist and communist construction is the process of developing and deepening proletarian revolution in the political, economic, and ideological fields. Interrupting the revolutionary struggle, stopping the revolution half way is fatal to the destiny of socialism. The fact is that the class struggle, the struggle between the socialist and capitalist ways continues throughout the period of transition from capitalism to communism. This is the fundamental contradiction all through this period.

The experience of what happened in the Soviet Union and elsewhere indicates that the danger doesn't come from the exploiting classes and their survival alone, from their counter-revolution by violence, not from external imperialism from its armed aggression but comes from bourgeois-revisionist degeneration whose base lies precisely in the "dregs" of the old capitalist society which are still kept in socialism.<sup>63</sup>

The problems being encountered in Albanian society were divided into four types. Firstly, there was the problem of bureaucracy as defined by disfunctions in the relationship between cadres and workers.

Failure to set and continuously perfect these relations along correct socialist lines will inevitably lead to the emergence of bureaucratism and to the degeneration of cadres who, from being servants of the people gradually turn to a new bourgeois class which follows a bourgeois policy and uses its power to secure a privileged position for itself and to hold sway over the people. This sets up relations of oppression and exploitation between this stratum and the masses. Social ownership gradually loses its socialist nature and turns into ownership of the state capitalist type.<sup>64</sup>

Alia argued that the problem would only be solved if the cadre circulation and the participation in physical production policies were properly implemented and indicated that resistance was being encountered to the scheme.

Second, technocratism, economism and intellectualism as bureaucratic disfunctions would need to be overcome. Here Alia was referring to intellectual-worker relations, arguing that in the training of experts,

<sup>62</sup> *Zëri i popullit*, October 3, 1968.

<sup>63</sup> *Ibid.*

<sup>64</sup> *Ibid.*

priority should be given to ideological over technical education. The basis for concern over intellectuals is similar, though not identical with that for cadres. The problem arises

. . . not because of their nature, but because of their tendency to detach mental from physical labour, of their position and the role they play in leading and organizing work, of the individual nature of their work are the intellectuals susceptible to alien bourgeois and revisionist viewpoints, ideology, politics and ethics, are they inclined to detach themselves from the masses, to overrate their role, ability and talents, to place themselves above the masses, to slip into postures of egotism and intellectualism, self-conceit, to consider themselves the only force capable of directing and leading. Therefore it is here that a very important area of the class struggle lies.<sup>65</sup>

Third, Alia raised the problem of conservation, noting both economic and political manifestations. He cited failure to properly implement measures for the increased mechanization of production processes in the Albanian economy which had been outlined by the Third Plenum of the CC of the PLA (13th–14th Oct. 1967). He accused managers of conservatism in refusing to implement labour saving changes in technology. In the political sphere Alia argues that conservatism had led to opposition to the appointment of young cadres in various positions throughout the society. In this connection, he asks:

If we fail to train and promote new cadres right away, then, when shall we do it? Our comrades must never forget that when our Party and People trusted them for the first time with posts of great responsibility, they weren't only very young in years but didn't have that culture and those skills the new cadres, carefully educated by the Party and arked with its ideology and a wide range of professional skills boast of today: . . . The struggle against conservatism is a long and perpetual one. It will never end because our society keeps developing, some things always spring up and grow while others become obsolete and should be discarded.<sup>66</sup>

Fourth, Alia spoke of the need to fight the tendency to be motivated by personal interest and place general above personal interest in everything and at all times.

It is noted that this tendency is not manifested only in the material shoppers, in the running after money and a fat salary, after privileges and material advantages, in the tendency to contribute as little as possible and wrest as much as possible from society, in occupying a comfortable post in town. It is manifested in a thousand and one more forms extending also to the moral features envolving one's own character like egotism and individualism, envy and personal ambition, intrigues and lies, career-seeking and servility, arrogance and self-conceit, comfort and ease and personal glory and familiarity and nepotism, acquiescence and apathy, localism and partiality and so on and so forth. This means that there are many problems, there is a whole field of action to imbue the people with the norms of communist ethics and to educate them in the spirit of placing the revolution above everything else.<sup>67</sup>

However, Alia warned that not only was the future important but also the present. Thus, for example great care was needed to ensure that the plans for the increase in real income of the people would be fulfilled and also taking into account the need to reduce the differences in the standard of living between agricultural workers.

The following analysis of the economic problems arising from the 1965 and 1966 system rule changes will attempt to show that from a purely economic point of view the decentralization measures of 1966, however moderate, militated against increased efficiency. On the other hand, the PLA's goals of greater control and maintainance of

<sup>65</sup> *Ibid.*

<sup>66</sup> *Ibid.*

<sup>67</sup> *Ibid.*

power in Albania evidently required a decentralization of economic decision-making power. These points will be amplified after a detailed discussion of the actual management problems encountered.

It is perhaps surprising given the PLA's emphasis on ideological and central planning that there should be accounts in the Albanian press in 1967 complaining about widespread private and thus illegal economic activity. In one report Durrë's workers are criticized for failing to denounce "the embezzlers and misusers of socialist property".<sup>68</sup> Another article<sup>69</sup> argues that base party organizations should intensify the class struggle against workers who behave 'as if they were landowners, artisans, and workers in private service, middlemen in the distribution sphere, entrepreneurs for other work etc.' It points out that in Pogradec, Elbasan and Shkodër, among other places, many people were realizing large incomes from orchards in which they were employing others. They were further accused of holding stock until the price was at its highest before selling. The article also indicates that there were a number of private handicraftsmen acting as clothes-buyer, tailors and carpenters among other things without a trade licence. Even worse it is stated that many people employed by the state spent their day at work resting so they could slave at night to earn income illegally. By 1959 most artisans had been brought into co-operatives but this apparently did not prevent them from cheating and failing to declare income. Finally, it is disclosed that there were also private entrepreneurs carrying out repairs and construction work at factory sites, houses and schools. The example is given of two such entrepreneurs who were engaged by a collective farm in Lushnje to build a place of culture for 800,000 leks—the official exchange rate at that time was 50 leks to one dollar. These private builders were allegedly obtaining their resources through bribery and corruption, and were being given their commissions by state or collective employed directors who were behind in meeting their plans. The article concluded that the above problems were not economic but ideological, that bourgeois thoughts from the past were the cause, and if worker persuasion could not solve the problem harsher punishment would have to be used.

The existence of problems such as these in the Albanian economy in March 1967 is clear evidence that the PLA's ideological campaign, which it will be recalled had begun with workers plan discussions in the middle of 1965, was not having the desired impact.

Such predictable problems as the poor quality and shortages of consumer goods<sup>70</sup> and the failure of enterprises to fulfill assortment plans while overfulfilling the plan for global output<sup>71</sup> were also reported. Discontent was expressed with the quality of packaging and content of export goods.<sup>72</sup> The existence of problems in the transport sector is evidenced by the disclosure<sup>73</sup> that state owned trucks and cars were being used for picnics and excursions and the transportation of workers' relatives to various unplanned destinations, and also by the fact that trucks had been discovered travelling on planned routes without any cargo, the drivers being unaware of this. The

<sup>68</sup> *Bashkimi*, February 2, 1967, p. 2.

<sup>69</sup> *Rruga e partisë*, No. 3, 1967, pp. 40-44.

<sup>70</sup> *Zëri i popullit*, April 16, 1967, p. 3.

<sup>71</sup> *Zëri i popullit*, April 11, 1967, p. 1.

<sup>72</sup> *Bashkimi*, September 27, 1967, p. 2.

<sup>73</sup> *Bashkimi*, October 27, 1967, p. 1.

existence of more unusual disfunctions was revealed in an analysis of the Albanian statistical system<sup>74</sup> which may be summarised as follows.

In 1966 two changes had been made in the Albanian statistical system. First, it was decided that 80 per cent of the statistics submitted by the enterprises to the central authorities were unnecessary and consequently eliminated. Second, in order to save the time of experts in the Executive Committees of the people's councils, the ministries and the Directorate of Statistics, it was decided that statistics would henceforth only be sent to one department in each organ. A surprisingly large number of problems had arisen in connection with this apparently simple aspect of the reform. Jakubini argues that insufficient care had been taken to explain to all concerned that along with the reductions in statistical reporting it was "necessary to eradicate and condemn the erroneous concepts of those who overrate records". This was even more necessary now as there had been certain instances of actual increases in data collection. There were also cases of people asking for statistics, when according to the guidelines of the Directorate of Statistics they did not have the right to do so and were thus breaking the law. A typical example concerns the collection of total output statistics by the executive committees and ministries whereas it is stipulated that enterprises should prepare these statistics every three months, some higher organs were demanding them to be submitted monthly. Jakubini points out that in addition to being illegal, this practice also reflected an undesirable stress on globalism when concentration on the quantity and quality of individual goods was necessary. There was also evidence of globalism in the construction and transport sectors although here it was merely undesirable not illegal. Finally, it was indicated that statistics were often being submitted late and sometimes even sent to the wrong place.

The *de facto* decentralization of investment decisions was by far the most critical of these problems from an ideological viewpoint. As part of the 1966 changes in economic planning it has been decided to place enterprise funds for investment and construction under the jurisdiction of the ministries and Executive Committees of the people's councils. These bodies would then be able to determine the precise distribution of funds among alternative projects without the projects being subjected to state bank control.<sup>75</sup> In making this decision the PLA leadership was evidently unaware of the importance of bank control in the classic Soviet model; namely, that—theoretically at any rate—it provides a check on the extent to which subordinate financial units in the hierarchy are carrying out the duties assigned to them. However, as important as it is to have a check on the activity of ministries and Executive Committees in a centralized model it cannot compare with the problems caused by its removal from a decentralized system. In other words, if there is a decentralization of economic decision-making power within the policy, planning and administrative hierarchy—as there was in Albania in 1966—and the authorities do not want this decentralization to spread into the primary economic units then a check on the activity of the regional authorities is necessary.

<sup>74</sup> I. Jakubini, "For a Better Understanding of the Simplification of Statistics", *Ekonomia popullore*, No. 3/1967, pp. 16-33.

<sup>75</sup> Bushkimi, July 25, 1968, pp. 2-3 and *Ekonomia popullore*, No. 2, 1966, pp. 14-27.

While it may be argued that in a centrally administered system, the regional authorities normally have no incentive to relax their control over enterprise directors, the Albanian case is complicated by the ideological campaigns. If a member of a people's council Executive Committee is expected to be ideologically pure it might be in his best interests to spend his time organizing revolutionary meetings of workers, and allow the enterprise director under his jurisdiction—who probably knows more about the economics of the situation anyway—to determine how best to allocate investment funds. From the director's point of view this newly gained power will help him fulfill his plans and thus gain the attendant bonuses. According to official estimates decentralised—illegal—investment accounted for more than 1 per cent of total investment in the Albanian economy in 1968, which may have been no more than the tip of the iceberg. Thus it can be argued that the ideological campaigns led directly to the least desired disfunction possible in a socialist economy—the weakening of the state plan. Articles<sup>76</sup> in the Albanian press in 1968 complained of enterprises embarking on illegal construction projects before the end of the plan period and, being unable to complete them, presenting the planners with a *fait accompli* for the allocation of funds to complete the projects in the next plan period.

The official reaction to decentralised investment was understandably violent although precise details of punishment for offenders have not been published. However, it is clear that the authorities did not associate the problem with the ideological campaigns in the manner argued above. Rather, it was assumed that vestiges of the past and other alien ideologies were to blame, the implication being that the campaigns had not yielded the expected outcomes in terms of political education of the majority of cadres. In the event there has been no further mention of decentralized investment in the Albanian press and the fact that the leadership felt confident in 1970 to embark on a further decentralization—discussed below—suggests that the problem was somehow solved, probably through the reimposition of bank control.

It has already been suggested that the decentralization measures of 1966 may have militated against increased efficiency of resource allocation in the Albanian economy. Since the decentralization of economic decision-making power in a centrally-administered system is generally responsible for greater information flows with the possibility for increased use of commodity-money relations and thus improved efficiency the contention that in Albania the outcome might be expected to differ requires explanation. It was noted above that the Soviet system of plan indicators was not fully adopted in Albania until 1959, fourteen years after the PLA's ascent to power. This delay was not caused by the authorities' unwillingness to centralize the economic system; on the contrary, there were insufficient trained economists to man such a system. Similarly it is doubtful whether the number of qualified cadres necessary to effectively decentralize was present in 1965. Thus, had the PLA acted from a purely economic point of view, they would have kept the country's experts concentrated at the centre until the education system had produced sufficient new

<sup>76</sup> For example, Bashkimi, July 25, 1968, pp. 2-3.

cadres to spread throughout the economy. But it has already been argued that the PLA's goals are not related to neoclassical economics and that the new system rules would be more likely to lead to desired outcomes than the classical Soviet model. Nonetheless, the disfunctions noted above suggested that the new system was not fulfilling the objectives of increased party control at all levels and rapid economic growth rates completely. To be sure, as the discussion in Sections III and IV indicates, the Fourth Five-Year Plan was overfulfilled in most sectors, but this was probably due more to massive capital inflows from China than the efficacy of the planning system.

The two areas in which the system rules might again be changed without difficulty but with the possibility of improved outcomes were the complexity of the indicator system and the distribution of decision-making power between the ministries and the Executive Committees. A reduction in the number of indicators requiring hierarchial approval would ease the pressure on the inexperienced cadres, while a limitation on the number of enterprises under ministerial control to those the production of which represented priority sectors would possibly facilitate economic growth by reducing the burden of non-priority planning hitherto placed on the ministries. That changes along these lines were imminent was indicated when the Ninth Plenum of the PLA Central Committee—convened towards the end of 1969—called for a thorough the re-examination of the planning methodology with a view to improving its “scientific content”.

#### *E. The 1970 Reorganization of the Albanian Planning System*

This part analyses of the changes made in 1970 and their likely impact on the Albanian planning system of the 'seventies. The reorganization of the planning system was announced by Hysni Kapo in his report to the Tenth Plenum of the Central Committee of the PLA in June 1970.<sup>77</sup> He gave the major aims of the changes as being to “do away with routine and raise the work of management to a scientific basis” and to further improve the nature of worker participation in the planning system. On the first point, he did not provide much amplification merely noting that as many workers and cadres as possible must become thoroughly acquainted with the economic laws of socialism, thus providing confirmation of the existance of the cadre education problem suggested above. With respect to worker participation, he argued that the participation of the workers in planning was being stifled by excessive centralization of decision-making on economic issues which could best be resolved at the district level. Thus, whilst the reorganization of 1966 had proved helpful in this regard, it was necessary to expand the competence of the base even further. Kapo also argued that proposals made by workers regarding the productive activity of the enterprise were not finding their way into the plans due to excessive red-tape in the hierarchy. This problem could only be overcome if more enterprises were placed under the control of the Executive Committee of the local people's council and if the number of plan indicators facing the enterprise was reduced and their quality raised.

In terms of a redistribution of economic decision-making power, the 1970 reform appears to have been far-reaching. In 1960 only 20

<sup>77</sup> *Information Bulletin of the CC of the PLA*, No. 3, 1970, pp. 25-75.

percent of enterprises were under the jurisdiction of the Executive Committees. This number had grown to 40 per cent in 1969—accounting for 30 percent of total industrial production—and 80 percent in 1971.<sup>78</sup> (The percentage share in production of these enterprises is not known, but given the small average size of firms, the share is still unlikely to be large).

As to the planning process, this still begins with the PLA which sets the broad outlines for each five year planning period. These guidelines pass from the State Planning Commission via either the ministries or the people's councils to the enterprise. It is within the enterprise that the bulk of the detailed draft planning is carried out. This process is considered in more detail below, suffice it to say that the individual plans of the primary economic units then pass back into the hierarchy to the State Planning Commission, again via the ministry or Executive Committee. It is the task of the State Planning Commission to amend the individual plans in such a way that a single balanced plan for the economy is obtained. When this has been achieved, the plan becomes law and the enterprise receives its tasks for the coming five years. These plan targets are further disaggregated annually, the process of compilation being essentially the same.

At the enterprise level, the drawing up of annual plans begins in July of the pre-plan year.<sup>79</sup> At plant and enterprise levels, commissions of planning are set up, composed mainly of workers. At the brigade level, work groups are established. These commissions and groups analyse the performance of the enterprise over the first six months of the base year with a view to determining possible levels of production for the remainder of the year. This data is then used by the planning commission, in conjunction with the enterprise director, to draw up a set of plan proposals to be put before the work collective. It should be noted that the five-year plan is also taken into account in this procedure.

The next step in the process involves "the organization of ideological and propagandistic work with the workers for the drawing-up of the project-plan". The trade union and party organizations in the enterprise use wall-posters and emulation notice boards to encourage workers to make proposals about ways in which the tasks of the firm may be carried out more successfully. These proposals are then all checked for their likely contributions to productivity, etc. On the basis of the original plan proposals of the commissions and work groups, and the proposals made by workers, the project-plan is drawn up. This plan is then brought before a mass meeting of workers again and, when approved, is sent to the relevant higher authority within the state administration. Following the drafting of the national plan by the State Planning Commission the plan for each enterprise finds its way back down the hierarchy. The final plan is now brought before the meeting of the worker collective and explained to it, particular attention being paid to a discussion of any changes which had to be made by the superior organs.

It must be re-emphasised that the foregoing scenario is designed specifically for the motivation of enterprise workers, the PLA hoping

<sup>78</sup> H. Banja, J. Fullani and H. Papaorgji, *Probleme të organizimit e të drejtimit të ekonomisë popullore në R.P.Sh.* ("Problems of Organizing and Managing the People's Economy in the P.R.A."), Tirana, 1973, p. 326.

<sup>79</sup> Planning at enterprise level is discussed in detail in P. Xhuvani, J. Gorica, E. Sejko and P. Bollano; *Organizimi, planifikimi i veprimtarisë ekonomiko-produese të ndërmarrjeve industriale* ("The Organization and Planning of the Economic-Productive Activity of Industrial Enterprises"), Tirana, 1973.

that it can mobilize the workers to press for higher plan targets than would normally be acceptable to management. Indeed, in complete contrast to the reforms which have taken place elsewhere in Eastern Europe, the position of the Albanian enterprise director has continually deteriorated. Materially, he has suffered several cut-backs of salary, the latest on April 1, 1976.<sup>80</sup> In terms of power, his authority over the activity of his enterprise has been diminished by a change in the Albanian concept of one-man management. Thus, whereas this term had previously been rendered in Albanian as *udheheqje unike*, a literal translation of the Russian *edinonachalie*, one-man management, this has now become *drejtim unik*, 'single guidance', the term always being appended with statements such as 'under the leadership of the enterprise party organization! However, his responsibility for the enterprise's achievements in terms of its plan, remains complete. Finally, the use by the PLA of worker participation and workers' control schemes has meant that the director is now under pressure from both the state hierarchy above and the workers' organizations below. It has already been mentioned that in 1968, enterprise directors benefited from a *de facto* decentralization probably caused by the zealotry of the ideological campaigns and the removal of bank control over investments. Now it appears that this gain has been removed the director has lost most of the decision-making power he ever had.

A phrase often encountered in the Albanian literature surrounding the present planning system is that it has increased markedly the "initiative" of the primary economic units in the planning process.<sup>81</sup> On the basis of such remarks it might be supposed that there has been a decentralization of decision-making power to the enterprise in the manner of other East European reforms. However, as an examination of Appendix II shows the notion of increased initiative could really only be applied meaningfully to the worker participation schemes, specifically in their ideological aspects. The enterprise has only the power to approve plan 8/(c) which deals with the measures to be taken for the exploitation of internal reserves, clearly an area of involvement for worker participation groups and the resident party organization. It should be noted that the planning branch of the enterprise is a management organ not to be confused with the workers' planning commissions discussed earlier.

In terms of further simplification of the planning system, the number of indicators in the plan can be seen from the table to be only 36. This is significant compared with the 77 indicators used prior to 1970, but it is difficult to imagine what the removed 41 indicators referred to, let alone speculate about the nature of the original pre-1966 550 plan indicators. At the macroeconomic level, the planning procedures remain as they were in 1959. Thus, the major method of plan formation remains the "method of balances" and as recently as August 1976, a well-known Albanian economist felt obliged to write that balances were still not being drawn up correctly and for all sectors of the economy. Ideological considerations preclude any discussion of optimal planning of the Albanian economy, mathematical techniques being used only at enterprise level for a discussion of which see Section IV—and at the centre attempts are

<sup>80</sup> Zeri i popullit, 1/4/1976, p. 1.

<sup>81</sup> For example, H. Banja *et al.*, *op. cit.*, pp. 229-245.

being made to compile an input-putout table.<sup>82</sup> However, the table does not appear to have been completed yet and it is noticeable that, after a period of apparent enthusiasm in 1971 and 1972, the number of articles on mathematical economics appearing in the Albanian literature is diminishing. This may be linked to the dismissal of certain economic ministers discussed below and in Section IV.

On the basis of the foregoing discussion it seems reasonable to conclude that the changes made to the Albanian planning system since 1965 have, in economic terms, been concerned with simplification and marginal adjustment rather than radical change. More generally, they have clearly been designed to improve the PLA's control over the economy and increase pressure on enterprise management. At no stage has the notion that economic decision-making should be decentralized to the enterprise been entertained in public although Enver Hoxha, in his report to the Seventh Congress of the PLA in November 1976 accused former State Planning Commission Chairman Abdyl Këllezhi of striving:

\* \* \* in every way to distort the principles of our socialist planning, in order to divest it of its socialist content and to set our economy on the road of revisionist self-management. This hostile, anti-Marxist activity was severely and strongly dealt with by the Party and prevented from finding any field in which it could operate.<sup>83</sup>

In the same report, Hoxha also provides evidence that the planning system is still not functioning as effectively as he would wish but that the PLA has realized the importance of bank control as a check on the system:

By strengthening their dynamic control by means of money, the financial and banking organs must become a barrier to any action which runs counter to the discipline of the plan and financial discipline.<sup>84</sup>

If the suggestion to decentralize economic decision-making was a major factor in convincing the PLA to purge Këllezhi then it can be confidently concluded that the Albanian economic system will not see any reforms of the type initiated elsewhere in Eastern Europe while Enver Hoxha remains First Secretary of the PLA.

#### *F. The Special Case of Collective Agriculture*

The economic activity of Albanian state agricultural enterprises is planned in much the same way as that of industrial enterprises and thus it but remains for this section to consider the internal organization of, and the planning of activity for the cooperative sector of Albanian agriculture.

The management of an agricultural cooperative differs from that of a state enterprise in that the principle of one-man management—however influenced by local party organ participation—is replaced by “collegiality” so that the day-to-day administration of the cooperative in the collective responsibility of a management board comprising the director, one or more deputy directors and certain senior staff.<sup>85</sup>

<sup>82</sup> *Probleme ekonomike*, No. 1, 1973, pp. 55-76.

<sup>83</sup> Enver Hoxha, *Report Submitted to the Seventh Congress of the PLA*, Tirana, 1976, p. 68.

<sup>84</sup> *Ibid.*, p. 70.

<sup>85</sup> A. Kallapodhi, N. Dumani and K. Kote, *Bazat e ekonomisë dhe organizimit të bujqesisë socialiste* (“The Basis of the Economics and Organization of Socialist Agriculture”), Tirana, 1971, p. 523.

Whereas the principle of democratic centralism is officially the sole management criterion in state enterprises, in the cooperative it is supplemented by the concept of "internal cooperativist democracy" whereby the management of the cooperative is elected by the imposition of procurement quotas, supplemented by the advice of the local PLA and Executive Committee and accountable to, its members.<sup>86</sup>

Up to 1971 the income of members of cooperatives were a combination of payments in cash and in kind as a labour-day divided and the produce of their household plots.<sup>87</sup> The plot had been diminished several times under PLA pressure in the last ten years, on each occasion the government offsetting the income foregone by increases in agricultural procurement prices, reductions in the prices of goods bought by farmers and, most recently, the payment of state pensions to eligible farm members. The increment in procurement prices was not accompanied by a rise in retail products (which overall have slightly fallen) and the difference has been subsidised 27 mn.leks in the three years 1967-69<sup>88</sup> and "hundreds of millions" in the six years 1970-75.<sup>89</sup>

In 1971 the system of collective remuneration was brought in line with practice elsewhere in Eastern Europe by the introduction of monthly advances, aggregating 70-80 percent of the labour-day dividend, the remainder to be paid at the end of the year to the extent that the plan is fulfilled.<sup>90</sup> More importantly, that year (on July 15) a new form of collective was introduced: The 'higher-type agricultural cooperative'<sup>91</sup> is an ingenious solution to an ideological problem of some importance to the PLA.

Soviet ideology during the Stalin era required that the mechanization of collective agriculture be undertaken via state-owned machine and tractor stations (MTS) because the transfer of capital goods from state to group ownership would represent ideological retrogression.

The PLA has never changed its position on this issue and has always criticized the USSR harshly for abolishing the MTS. Of course, the provision of machinery was never the sole MTS function in the Soviet Union or Albania. In both it was responsible for agricultural procurement, it had to assist in the collectivization drive and, perhaps most important in Albania, the MTS was charged with spreading the PLA's message among the peasants. Hence for the PLA the MTS remains an indispensable unit of organization in agriculture.

On the other hand as can be seen from the discussion in Section III, plan fulfillment has always been a problem in Albanian agriculture and increased capital investment in the cooperative sector was essential if crop yields were to be raised to a satisfactory level. The ideological considerations just described meant that investment in the cooperatives could only take place on the basis of internal accumulation, short-term state aid and long-term bank credits. Thus

<sup>86</sup> *Ibid.*, pp. 520-521.

<sup>87</sup> *Financat e ndërmarrjeve dhe degëve të ekonomisë popullore* ("The Finance of Enterprises and Branches of the People's Economy"). Tirana, 1972, Part II, p. 130.

<sup>88</sup> *Ibid.*, p. 116.

<sup>89</sup> *Albania Today*, No. 1, 1976, p. 20.

<sup>90</sup> *Financat e ndërmarrjeve . . .*, loc. cit.

<sup>91</sup> *Gazeta zyrtare*, 8/1971.

in 1970 in comparison with state farms, food grain yield was only 85 percent, cow milk yield 47 per cent, the level of mechanization was 64 per cent and the volume of annual investment, 60 per cent.<sup>92</sup> But it is clear from these figures—although the former Minister of Agriculture, Piro Dodbiba, did not choose to draw the conclusion—that in grain and milk production, the cooperatives were achieving higher levels of output per unit of mechanization and investment than the state farms.

The higher-type cooperative continues to receive short-term state aid but long-term bank credit has been replaced by direct investment out of the state budget. The state becomes a part-owner of the cooperative to the extent of its investment in it. In this way the ideological standing of the investment remains unaffected. Remuneration of members is also by a method intermediate between those for cooperatives and state farms. Thus, workers in the higher-type cooperatives are paid 90 percent of their wages, determined by planned norms, fortnightly and the remainder at the end of the year provided the plan has been fulfilled.<sup>93</sup> The difference between this system and that operative for ordinary cooperatives is that in the latter case payment is based on labour-days where in the case of the higher-type cooperative, wages are tied to the fulfillment of the production plan, which is no longer determined internally but, as with state farms, as part of the state plan.<sup>94</sup>

The provision of machinery for the higher-type cooperative provides a further example of ideological ingenuity. Whereas the state farm owns its machinery and the average cooperative is one of several being serviced by an MTS, each higher-type cooperative has the exclusive services of an MTS. Thus, the agricultural machinery remains *de jure* state owned but in terms of availability to the cooperative there has been a *de facto* transfer of control.

The aim of the PLA with respect to agricultural organization is the conversion of all ordinary cooperatives into higher-type cooperatives and ultimately the complete elimination of group and private ownership. However, for the moment at least, members of higher-type cooperatives are still entitled to a private plot. The prerequisite for transition from ordinary to higher-type cooperative status has been and continues to be "economic strength", thus the cooperatives must, in some undefined sense, be ready for ideological advancement.<sup>95</sup> By 1976, higher-type cooperatives occupied 23 percent of the arable land and produced 25 percent of the grain, 40 percent of sunflowers and more than half the rice and cotton produced by the cooperative.<sup>96</sup> No higher-type cooperatives have as yet been transformed into state farms, nor has a clear transition mechanism been defined. As Enver Hoxha put it in 1971:

Life, the revolutionary practice of our socialist construction, will show us later the other stages through which this process will have to pass. It will indicate the measures that should be taken to gradually eliminate those differences which exist today between these two forms of socialist property.<sup>97</sup>

<sup>92</sup> P. Dodbiba, *Albania Today*, No. 5, 1974, pp. 24-29.

<sup>93</sup> *Ibid.*

<sup>94</sup> *Financat e ndërmarrjeve . . . .*, op. cit., p. 117.

<sup>95</sup> Enver Hoxha, *Report to the Seventh Congress*, op. cit., p. 54.

<sup>96</sup> *Ibid.*, p. 55.

<sup>97</sup> Enver Hoxha, *Report to the Sixth Congress of the PLA*, Tirana, 1971, p. 84.

### III. OVERALL ECONOMIC PERFORMANCE\*

The present section deals exclusively with the inputs of labour, capital and technology to the Albanian economy and the main results of each Five-Year Plan. As already mentioned in Section I, the paucity of documentation—not least the lack of capital of output aggregates—preclude the application of any sophisticated statistical method of analysis. Similarly no attempt is made to evaluate changes in consumption during the period of central planning, but two relevant tables are added at the end of the Section. Table III-8 cites retail prices under food rationing, ended on January 1, 1956, and in 1970. The latter are shown against comparable prices in the Kosovo Autonomous Province of Yugoslavia, in part amplification of the discussion in Section I. Table III-9 sets out the official series on the consumption and accumulation funds: in the sixties the size of the former rose 88 percent. Although the trend of factor price relatives seems to conflict with statements on the decline in retail prices, they can be made compatible by the existence of price subsidies. An article in *Albania Today*, No. 1, 1976, p. 20, for example, reported that hundreds of millions of leks were paid as subsidies in 1970-75 because farm procurement prices exceed retail prices and that 140 mn leks had been paid over the same period in subsidies to industrial production.

#### A. Manpower Policy

The vast increase in the Albanian population described in Section I has posed, and will continue to pose fundamental problems of job-creation. The central planning mechanism discussed in the foregoing Section II had its solution as a prime aim. It was in emulation of the Soviet model that the First Five-year Plan (1950-55) promoted migration from rural occupations to staff new mines and factories, most of which were situated in a few of the larger towns or with settlements which were later classified as urban. The cancellation of major projects after Stalin's death reduced job-creation while the migration to towns continued, for there neither was nor is any legal direction of unskilled labour in Albania.<sup>98</sup> Urban unemployment became serious in 1955-56, exacerbated by the nationalization of trade and handicrafts, and a campaign was instituted to send "idlers" to the villages, then still uncollectivized and where a little extra under-employment in almost totally labour-intensive farming would result in stretching food supplied among the rural population, rather than require the specific upkeep of unemployed in towns. As Table III-4 (discussed further in C below) shows, the industrial output increment between 1950 and 1955 was based more on new manpower than on productivity, and the non-farm labour force increased from 75,700 to 122,000.

The Second Five-Year Plan (1956-60) resumed the industrialization drive, although in a different form, notably with an export orientation, based on the exploitation of local resources and in somewhat smaller units than previously. A recent analysis identified 1954-60 as the peak period for rural migration to the towns.<sup>99</sup> The outflow was controlled

\*This section was prepared and written by Michael Kaser. See end of section for tables related to section.  
<sup>98</sup> The reverse is the case: socialist enterprises compete with each other for labour. Thus *Bashkimi*, June 13, 1970 criticized the "many enterprise directors" who recruited workers without informing the cooperative farm or village enterprise where they worked.

<sup>99</sup> I. Rama, *Kruga e paritet*, No. 5, 1975, pp. 36-45.

and both investment and work organization were more effective. The 179 per cent rise in global industrial output was contributed to by a 70 per cent increase in productivity, the labour intake thus being 64 per cent, confirmed by a rise in industrial employment (including nonmanual workers who do not figure in the numerator of the labour productivity division) from 49,800 to 70,900 between 1955 and 1960 (alternative figures are used in Table III-4). Collectivization reduced the outflow from rural areas, partly because farmers wanted to register as members so as to retain a right to the dividend (which at the time was calculated on the basis of rent for land brought in to the cooperative as well as on the current labour contribution), and because labour requirements on the new cooperatives rose at least for an initial period as new common services and structures had to be built (a central administrative office, barns and stables, clubs) as well as increased social service facilities (schools, health centres) and roads.

Mechanization has been very slow to come in Albania and even though the official statistics show a rise in the number of tractors from 285 in 1950 to 8,185 in 1973,<sup>1</sup> photographs of leading farms and brigades in the agricultural monthly *Bugjë sia socialiste*, continue to this day to be of manual methods. Although editorial preference for honouring labour would favour such processes for illustration, the processes shown are usually such that they would not be undertaken by hand if machines were available. A further reason for the slowing of the migrant flow was the reduced requirements of industry. Faced with a complete stop to trade with the USSR (see "Trade and Aid in the Albanian Economy" in this volume) and a severe curtailment of that with other members of Comecon (with which Albania was severed at the end of 1961), 'make do and mend' became the order of the day. As Section IV shows the principal branch of industrial expansion in the 1961-65 Plan was the engineering industry, predominantly making spare parts for the equipment previously imported from the states which imposed an embargo. These tended to be more labour-intensive than the completely new factories put up in the fifties, so that some migration from farming was required and encouraged. Employment in state industry in 1965 was 86,000 (or 83,000 on the series used in Table III-4). This was exactly the same (22,400 against 21,000 as in the preceding five years.<sup>2</sup>

By the end of that plan period, rural areas were beginning to reap the reward of improved postwar health services and the natural increment for that plan period and the next was about enough for agricultural needs. The non-farm sector from 1966 to 1975 (a period of two Five-Year Plans with more modest industrial targets—50-54 per cent planned in 1966-70 and 61-66 per cent in 1971-75), managed with urban manpower (increasing the female participation rate) and with some labour-saving investment and rationalization. From 66,500 in 1965 industrial employment rose to 133,600 in 1970 and 161,000 in 1973. No figure has since been published.

With 1975, however, came a reversal of the village-urban flow and to utilize manpower in rural areas a new 'back to the village' campaign was launched: new factories were to be sited in rural zones to utilize local manpower without the need for social infrastructure invest-

<sup>1</sup> *80 vjet . . .*, p. 129.

<sup>2</sup> The 1960 industrial employment figure was revised from 70,885 in the 1965 *Yearbook* to 66,460 in that for 1967-68 and in *80 vjet . . .* as annual averages and to 64,421 as the end-year total in that for 1969-70.

ment in the towns.<sup>3</sup> By the next year it was possible to contend that there was excess manpower in the towns while villages were short of labour.<sup>4</sup>

Government publicity to foster the return flow placed stress on the increase in amenities in the countryside. Complete electrification, i.e., a power supply to every village was declared in 1971 and shops, housing, schools, health services and entertainment were said to be the equal of those to be found in towns.<sup>5</sup> It was observed that a number of those who lead the 'return to the village' movement did not settle there themselves: they were chided for not appreciating that villages had the same facilities as the towns,<sup>6</sup> but opportunities are more limited than in the towns. Thus a report on the Durrës district questioned the teaching of arts subjects in rural schools and demanded that they adopt a curriculum directed towards farming.<sup>7</sup>

Furthermore, there was a certain drift from collective farming into the private sector, both as collective-farm members devoted more attention to their household plots or to their own livestock<sup>8</sup> (a widespread reaction wherever collectivization is in force), undertook side-line activities in the village,<sup>9</sup> sold their produce in relatively distant towns (a revival of such commerce was particularly noted in 1976<sup>10</sup>) or set themselves up in urban small business.<sup>11</sup> Labour exchanges were established to bring order into the cross-movements of migration, but their function was said to be misunderstood and their operation 'bureaucratic': they were reportedly too concerned with employment in urban areas, where there was surplus labour. No manpower requirements had been properly established (according to the same report, of mid-1976) and labour exchanges should, it was argued, devote time to analysing which jobs, traditionally done by men, should be transferred to women.<sup>12</sup>

The place of female labour in rural manpower policy has been much to the fore in recent public discussion. On the one hand, the return to the village campaign has been partly directed towards young women. In 1975 some girls (many against the advice of their parents) settled from the town of Kavaja in villages. 'Now that they have overcome their initial difficulties they are completely happy'.<sup>13</sup> Much of the youth recruitment for agricultural or transport construction is on a temporary basis and (as the closing remarks of Section I observed) at least partly intended to break down traditional constraints on occupational or social mobility (e.g. to reduce the dominant role of the male generally and the subordination of the wife in particular).

Especial attention has been paid to training women as their customary relegation to unskilled tasks remains tolerated: 'they are allocated dirty, menial jobs because they are not considered good enough for specialist training, but this decision is taken without giving them even a chance to show what they can do'.<sup>14</sup> Women are

<sup>3</sup> Rama, *loc. cit.*

<sup>4</sup> N. Simaku, *Zëri i popullit*, March 13, 1976.

<sup>5</sup> *Zëri i popullit*, March 21, 1976.

<sup>6</sup> L. Vero, *Bashkimi*, August 22, 1975.

<sup>7</sup> V. Petari, *Bashkimi*, January 31, 1976.

<sup>8</sup> Z. Behri, *Bashkimi*, June 17, 1976.

<sup>9</sup> A. Osmani, *Bashkimi*, April 19, 1975.

<sup>10</sup> Behri, *op. cit.*, (1976).

<sup>11</sup> Behri, *Bashkimi*, May 24, 1975.

<sup>12</sup> Simaku, *op. cit.*

<sup>13</sup> B. Dizdari, *Bashkimi*, April 9, 1976.

<sup>14</sup> Dh. Bako, M. Como, *Zëri i popullit*, July 22, 1975.

rarely given positions of responsibility (only 1 in 100 cooperative-farm chairmen are women). the Albanian Women's Union noted in its report in 1975<sup>15</sup> and in the more backward regions, such as the Mati district, women are employed to carry goods within (and even beyond) the enterprise, when animals or vans should be used.<sup>16</sup>

Hoxha made a notable gesture to raise the status of women, notably in farming, in replacing in 1976 the male Ministers of Agriculture and of Education by women each from the field and neither with no previous experience of government office (one was a cooperative-farm chairman, the other a school teacher).

That move was consonant with an embrace of egalitarianism which had striking effect in 1976 in a reduction of upper salaries (those above 900 leks a month were cut on a scale running from 4 to 25 per cent). The average salary was thereby cut to just double the average wage (1976), whereas in 1967 it had been 2½ times the average wage. Within wage-scales the spread between the highest and the lowest grade was considered too wide even at a mere two-thirds (in 1967) and the lower wages (and guaranteed dividends of collective farmers) were raised in the 1976 wage reform.

The Report of the Chairman of the Council of Ministers, Mehmet Shehu, to the VII Party Congress in November 1976<sup>17</sup> observed that the monthly salary of a director of a state enterprise was that year only 70 per cent above that of a manual worker and that that of a director in a ministry was only double a worker's pay. The skill differential among workers had been cut to something like 1:1.5 or 1:1.65 according to branch. The egalitarian pay policy links with official pressure on white-collar workers to engage in manual labour for approximately 30 days each year, as fulfilment of the ideological aim to assimilate work by hand and by brain.

That general policy has had a specific manpower allocation aspect in campaigns to diminish white-collar employment, as demanded by the Party Central Committee in its "Open Letter" of March 4, 1966, to which reference has been made in the context of management in Section II, where the consequences of that requirement are fully considered.<sup>18</sup>

As Table I-3 shows, the reduction of the central administration made little effect on the share of white-collar personnel in state employment. By 1973 they constituted 23 per cent, against 24 per cent in 1960.

### *B. Policy on Material Inputs*

The corollary of a policy of labour intensity for the production of goods, as opposed both to capital-intensity or the generation of "non-productive" services, has been the economy drive for materials (*regjimi i kursimit*). Two features are reserved for analysis in the ensuing sections. The article, "Trade and Aid in the Albanian Economy" (in this volume) points out how the rupture of Albanian commercial relations with its former partners in Comecon and the government's unwillingness to intensify the modest trade with the West brought many domestic shortages. Section IV looks in detail at

<sup>15</sup> *Zëri i popullit*, February 14, 1976.

<sup>16</sup> H. Canamei, *Bashkimi*, June 29, 1976.

<sup>17</sup> *Zëri i popullit*, November 5, 1976.

<sup>18</sup> See p. II 22 above.

the provision of spare parts and components to meet the shortfall in imports. In the present context, amplifying the discussion of the previous Section, the issue is the policy of "taut" planning, i.e. of reducing to a minimum the inventories, intermediate goods, justified by the period of production and reducing wherever practicable the authorised volume of inputs per unit of production ("technical input norms"). The consequences have been shortages at all levels of fabrication and distribution, which could, by halting output for lack of supplies have created bottlenecks in deliveries of current goods or led to an underutilization of the principal scarce factor, capital assets, the cost of which exceed the increment in production elsewhere due to lower inputs per unit of output. Although on Albanian calculations along these lines seem to have been published, the ambition of production targets in relation to inputs provided at the available technology was potent in the severe underfulfillment of the 1971-75 Plan.

A peak of campaigns for economy was begun in 1972, the Plan having been enacted at the end of the previous year. Thus the Party newspaper in February castigated four of the main towns for excess consumption of electricity (running at an average of 10 percent greater than planned, with 20 mn kWh said to have been consumed "without real need" during 1971 in "offices and workshops"). Civil servants and factory administrations said to be careless about waste in their offices or plant and farmers were taken to task for keeping lights on in cattle sheds.<sup>19</sup> An editorial later in the year called for stricter control (*forcuar disiplinën*) over technical input norms for building materials, especially those in short supply: where norms had been sanctioned only "provisionally", prompt verification of actual needs was required.<sup>20</sup>

Frugality had always been praised: an article in the Party monthly in 1970 had observed that it was not a sign of poverty or weakness but, as Marx termed it, "a saving of time". The inculcation of the economic use of resources should hence not be by a single campaign, but a cooperative action by all, for which each saw his interest in the consequential growth of output, which should be continuously respected.<sup>21</sup>

It came to be realised that so far as household consumption was concerned, the low prices charged for public utilities—intended to assure access to them by the poorest—conduced to waste.<sup>22</sup> For industrial consumers conditions of intermittent supply of inputs generated informal arrangements well-known in the Soviet Union—of "barter" agreements outside plan contracts between enterprises and the employment of "fixers". This was denounced as "liberalism" (one of the designations then being used for actions in governmental disfavour) and the need emphasised the conclusion and exact fulfillment of plan contracts.<sup>23</sup> Such "liberalism" in the infringement of plan provisions was "nothing but anarchosyndicalism", claimed the Party journal, although the imposition on enterprises of input norms and other

<sup>19</sup> *Zëri i popullit*, February 2, 1972.

<sup>20</sup> *Ibid.*, November 3, 1972.

<sup>21</sup> *Rruga e partisë*, No. 5, 1970, pp. 5-25.

<sup>22</sup> S. Koleka, Deputy Chairman of the Council of Ministers, *Zëri i popullit*, February 12, 1972.

<sup>23</sup> *Bashkimi*, March 19, 1974.

indexes which were infeasible smacked of its antonym, "bureaucratism".<sup>24</sup> The need to chart a careful course between the two extremes was stressed in the context of input-output relations on many occasions. A well-known economist pointed to the bottlenecks caused by a deviation from a planned output needed as a further input,<sup>25</sup> while the Minister of Finance looked at the aspect of excess consumption of intermediate goods, notably in the increment of stocks above those authorized in a "taut plan".<sup>26</sup> The failure of producer-goods enterprises to meet the technical quality or performance parameters of customers could also nullify the input-output relationships planned,<sup>27</sup> just as similar short-comings by consumer-good enterprises led to the accumulation inventories in the retail sector which are unsaleable (similar in effect to excess ordering by retailers, also seen as prevalent, at least in some districts).<sup>28</sup>

### C. Production Results

The technique to assess the success of combining a superfluity of labour with an exiguity of producers goods is readily to hand, but production-function analysis requiring time series well beyond those which Albanian statistics offer. The absence of manpower data beyond 1960 and published capital stock returns preclude the application of any statistical measurement. The only aggregative output series free duplication arising from organizational characteristics (such as vitiate gross social product and its origin components) which has regularly appeared is net material product (NMP). As noted in Appendix I (section A), the Laspeyres formula, spliced for changes in price-base, would tend to exaggerate increments in comparison with a Paasche weighting, but the dynamism of the official series in Table III.1 is not unrealistic. At 1971 prices NMP per head of population would have been 1,192 leks or \$95 at the 12.50 lek rate as used in Section I above.) If GDP exceeded NMP in 1950 by the same ratio as Table I.1 estimates for 1970, i.e. by 27 per cent, GDP per head would have been some \$120. Although this can be only an order of the broadest magnitude, the transformation of Albania from an economic level of the really poor to one of intermediate development cannot be gainsaid. As Table IV.15 shows, industry and handicrafts contributed not much more than one tenth of NMP on the eve of the First Five-Year Plan, say \$13 mn at 1971 prices or a mere \$10 per head.<sup>29</sup> If the 1980 target is exactly fulfilled, NMP will have risen 9-fold since long-run planning began and, in 1971, prices just exceed \$1 bn. At a projected mid-1980 population of 2,721,000,<sup>30</sup> this would furnish \$385 per head or—assuming again an unchanged relative contribution of 'non-productive' services—of some \$490.

Five-Year Plans have not however been systematically fulfilled and Albania has the worst record in East Europe of failure to achieve its long-term targets. The record is set out in Table III.2, but the causes are chiefly exogenous.

<sup>24</sup> *Rruga e partisë*, No. 11, 1973, pp. 21-30.

<sup>25</sup> B. Bardhoshi, *Zeri i popullit*, Kanuary 18, 1975.

<sup>26</sup> L. Goga, *Zeri i popullit*, July 25, 1975.

<sup>27</sup> *Bashkimi*, November 12, 1975.

<sup>28</sup> J. Mihali, *ibid.*, June 19, 1976.

<sup>29</sup> Applying the breakdown of NMP by industrial origin in Table IV-15 to the lek value for 1990 NMP in Table III-1 in 1971 prices shows industry to have generated 160 mn leks. At 1970 dollars this would have been \$12.8 mn.

<sup>30</sup> Projection as used for Table I-4.

The First Five-Year Plan (1951-55) was drawn up when other countries in Comecon (which Albania had joined soon after its establishment in 1949) were revising their producer-goods targets upward. The directive to seek self-sufficiency in "heavy industry" was of Soviet origin, and, having just dissociated itself from Yugoslav tutelage under Soviet sponsorship, the Albanian government was responsive to the call. By 1953, when in the U.S.S.R. the administration succeeding Stalin declared itself for more priority to the consumer and workers rioted in East Berlin, the pressure to devote resources to high-cost capital projects was relaxed also in Albania. The Çerrik oil refinery and the Mati Hydroelectric Plant were postponed to the next plan period and the project for a steel smelter at Elbasan was shelved, not to be revived until the plan for 1971-75. The 1953 review also revealed the weakness of the Albanian fuel base, and prime attention was transferred from exploiting its poor quality coal to seeking more oil, a prospecting shift which soon yielded concrete benefits in striking a gusher of lower-sulphur content in 1957.<sup>31</sup>

The move from coal to oil was also a feature of Soviet energy policy after Stalin's death. Although Albania kept up its net fuel exports (crude oil sales rose from 67,200 to 123,700 tons, whereas coke imports increased only from 2,203 to 4,700 tons), the shortfall in its energy targets was a major factor in the general industrial underfulfillment.<sup>32</sup> Agricultural policy was also revised; concessions to the peasantry in 1953 included an abolition of grain delivery obligations in the highlands, a halving of quotas elsewhere, the exemption of farmers without livestock from meat or wool deliveries (which they had had to furnish from sales of their crops, on which quotas were already levied) and in 1955 state procurement prices were raised. Both relaxations corresponded to those undertaken in the U.S.S.R., but came too late to salvage hope of achieving the high target (unrealistic as it may have been in the first place) for farm output. A vast disparity between plan and achievement was also shown for transport, but this was partly due to abandoning a railway scheme to link the Memalia coalfield with the port of Vlore (never since revived because of the substitution of oil).

The concessions to farming and Soviet advice to concentrate on the export of fruit and vegetables induced the PLA to put ambitious 1960 goals for what was then the largest contributor to national product. The extent of melioration work in the littoral also led to high hopes of early returns—23,300 had been affected in 1945-50, 30,400 in 1951-55 and 38,300 in 1956-60. Unfortunately return drainage was neglected and salination reduced expected crop yields until corrective works were undertaken. In the event, farm output gained only 26 percent in 1956-60 against a plan which at its maximum revision was for a 77 percent increment.

Industry on the other hand made a much better showing than the Second Five-Year Plan envisaged, the rise being reported as 118 percent against a target of 92 percent. Much of the greater output must have been due to Soviet credit deliveries of industrial equipment and

<sup>31</sup> The technical characteristics of Albanian crude (as opened up after 1925 by a private firm, Società Italiana Miniere di Selenizza (i.e. Selenic®) the Italian State Railways and a forerunner of ENI, the Azienda Italiana Petroli Albania) required refining in special equipment in Bari (M. Magini, *L'Italia e il petrolio tra storia e cronologia*, Rome, 1978, pp. 27, 45).

<sup>32</sup> See *Economic Survey of Europe in 1960*, chapter VI, p. 9.

a calculation published in 1959 put output by installations of Soviet provenance at 25 percent of global industrial production.<sup>33</sup> The U.S.S.R. had supplied 90 percent of the plant for the oil industry and of the lorry park, and 65 percent of agricultural machinery (82 percent of tractors). In no earlier or later quinquennium was investment so dynamic, the rise reportedly being 86 percent over the period (Table III.2) and the share of accumulation in NMP utilized rising from a mean of 25.6 percent in the First Five-Year Plan period to 27.0 percent in the Second (Table III.3). It was also the period of the fastest rise in net industrial output per man. As Table III.4 shows, it gained 67 percent between 1955 and 1960, against one of only 12 percent in the previous five years and 17 percent in the next. The 1965-70 period, though better than its preceding, showed only a 26 percent improvement.

The gain was certainly due to the capital intensity which was supported by Soviet-assisted imports, and which was signified by the return of urban dwellers to the villages. Mention has been made of that policy change in A above. Addressing the IV Congress of the Albanian Women's Union in October 1955, Enver Hoxha called for the return to the villages of "the thousands of Tirana citizens who are idle for one reason or another."<sup>34</sup>

The severance of Albania from Comecon and the rupture of diplomatic relations with the U.S.S.R. at the end of 1961 terminated the reliance on capital good imports and a new period of labour intensity was begun. In the 1961-65 Plan period, the industrial labour force increased by one quarter (25.3 per cent, as Table III.4 indicates), but the output plan was seriously underfulfilled (by 9 per cent, as Table III.2 shows).

Collectivisation (completed in 1965-66 in the highlands, but by 1960 in the more productive lowlands)<sup>35</sup> was not a significant factor in the underfulfillment 75 per cent of the 1965 target for agricultural output, but rather the transfer of manpower into non-farm employment. Although Chinese assistance met some of the more acute shortages and contributed some capital equipment, it was in no position to make substantial assistance available after the change of plan when the "Great Leap Forward" was halted. Its distance as an ally, the withdrawal of the Soviet submarine base at Vlorë and tension with its neighbours<sup>36</sup> evoked a major defence effort and the share of accumulation, of which much of the increment must have been military hardware, rose to 28.8 per cent (Table III.3).

The Fourth Five-Year Plan began under equally inauspicious conditions, but caused by domestic, rather than external, political factors. The Central Committee's Open Letter of 1966, to which reference has already been made, cannot but have induced difficulties at the enterprise level. As Section II describes, the years 1965-66 marked the transition from a Soviet-type of planning and management to a specifically Albanian practice, in which ideological and moral outcomes ranked higher than economic results. The detailed survey of industry in Section IV puts the opening of the phase of 'the scientific technical revolution' in 1967.

<sup>33</sup> H. Banja, *Ekonomia popullore*, No. 6, 1959.

<sup>34</sup> Cited in *Economic Survey of Europe* in 1960, Ch. VI, p. 8.

<sup>35</sup> Collective output as a percentage of total global farm output was 66 in 1960 and 77 in 1970 (30 vjet . . . , p. 104).

<sup>36</sup> The state of war with Greece, dating from 1950, remained in force and the strength of relations with Yugoslavia were the inverse of Albania's relations with China.

In the event, industrial-production structure was much improved. Net output more than doubled, whereas global output rose by 83 per cent: duplication of material inputs was reduced by 13 per cent, indicating more in-factory production and hence a higher ratio of value-added per unit of sales. The 83 per cent rise in the aggregate value of sales was well above the 50 to 54 per cent increment specified in the Plan and the Albanian government had good reason for self-congratulation in the industrial sphere.

Agriculture by contrast, was less successful in relation to the objectives posed. A large ploughing-up campaign brought in more arable land, but the hopes that farm output would rise almost as rapidly as was expected for industry went unfulfilled, although the 28 per cent increment reported was not unhealthy. Melioration work covered 43,774 ha in 1966-70 (against 24,992 in 1961-65), of which 11,398 was new land. Despite the rise in arable area, the acreage per tractor HP available fell by 1970 to 825 hectares (against 1,545 in 1960).<sup>37</sup>

The pattern of the ensuing Plan, for 1971-75, remained ambitious, for (as Table III.2 shows) global industrial output was to increase by 61-66 per cent and agricultural output to grow even faster, at 65-69 per cent. Industrial output, as Section IV describes in more detail, decelerated in the later years of the Plan (see Table IV.16) and by 1975 the annual rise was a mere 4 per cent. Overall, the rise for the five years was 52 per cent in global terms, but no data can yet be compiled on a net basis. Farm output showed a one-third increment, valuable in itself, and by 1976 self-sufficiency in grain was achieved.

The policy disputes which rent the Party leadership since 1971 have already been discussed at various points above and in Section IV, but it was not until October 1975, when the three ministers with economic portfolios were dismissed that the struggle within the PLA demonstrated major differences on economic policy. The denunciation at the Seventh Party Congress in November 1976 of those dismissed for 'sabotaging' the oil industry and for favouring self-management indicated that both issues of economic performance and of management were involved.

The current Five-Year Plan poses more modest industrial growth targets than under any previous long-term plan (41 to 44 per cent) and, though the annual plan for 1976 was for only 4.5 per cent, that for 1977, at 8.9 per cent, indicated a stepping-up of industrial expansion. The farm output target of a 38-41 per cent rise by 1980 was almost as large, but 1976 showed a bumper crop, global agricultural output being 30 per cent up thereby, as just noted, reaching the self-sufficiency in grain. As Table III.5 shows, although much has been done in some crops to raise yields over the past quarter-century, they remain low by European standards, except for grain. The time series on agricultural credit ends too early to describe recent changes in policy towards farmers, but funding seems to have reached a peak at the turn of the decade, with lower levels registered for the early 'seventies (Table III-6).

#### *D. The Dispersion of Development*

Little changed economically from the Turkish period as it was on the eve of the Second World War, Albania as a whole was an under-developed country; some regions, however, had benefitted from such

<sup>37</sup> *Ibid.*, p. 129.

impetus far more than others. In 1938 the towns of Tirana, Korça and Shkodër and their surrounding areas generated 43 percent of the combined output of industry and agriculture of the country, whereas the five least developed regions (Dibra, Elbasan, Fier, Kukës and Mat), which comprised triple the population of the three most developed regions, produced a mere 14 per cent. The disproportion was still more severe if industry and handicrafts are taken separately: the three best off, together with Berat and Durrës, with 35 percent of the population, produced 80 percent of national output, while only 0.5 percent was produced in the six most backward regions (Gramsh, Kukës, Librazhd, Mat, Permët and Tepelenë) which had .16 percent of the country's inhabitants.<sup>38</sup>

In the first twenty years of planned economic development, industry was predominantly established in and near towns where a beginning had been made before the Liberation, including under the Italian occupation. Thus, by 1967, Tirana, Berat, Durrës, Elbasan, Fier, Korça, Shkodër and Vlorë regions produced 45 percent of all engineering goods and 62 percent of glass and ceramic ware. Durrës alone produced 12 percent of total gross industrial output, Fier 7.8 percent and Elbasan 7.6 percent.<sup>39</sup> Some concentration of industrial investment in the capital, Tirana, was inevitable, and, being the major centre of population, has, not unreasonably, been made the main centre of 'light' industry; half of the region's gross industrial output in 1975 was of foods and other consumer's goods. Similarly, the chief port, Durrës, and the principal towns of each group of the Albanian population (the Geg Shkodër and the Tosk, Korça), were fairly equally developed, the Elbasan, the main 'mixed' town—so much so that its dialect was seen before the War as the basis of a unified language—was transformed from the sleepest of Turkish-type market towns to a centre of large-scale industry, of which the metallurgical combine stated in 1975 was the biggest single contributor, based upon the iron-nickel ores in the vicinity, which were opened up on a larger scale in the sixties. Vlorë received its postwar development (1973 output was 43 times that of 1938)<sup>40</sup> from the location there, until 1962, of a substantial submarine base, and munitions and military-support enterprises. have remained its backbone when isolation from its sole ally, China, led to a considerable expansion of domestic defence facilities. The town and port remain closed to all foreign visitors, because of its military orientation, but the town of Vlorë, which in 1973 produced 7.9 per cent of national industrial output, also had a number of plants in the chemical (calcined soda, polyvinyl chloride and pharmaceuticals), electrical (light blubs and incandescent tubes), oil, cement and food-processing sectors. It was gradually regaining (as Table III.7 shows) its share at the start of industrialization.

The expansion of the extractive sector, either to supply this industrial growth of as exports, particularly copper, iron, nickel, oil and building materials fostered some dispersion; Albanian statistics of gross industrial output include mining and quarrying. Thus the eight most industrialized regions named above produced only 28 percent of building materials, in 1967, although some regions remained

<sup>38</sup> E. Luci, *Economia popullore*, No. 1, 1970, pp. 54-59.

<sup>39</sup> *Ibid.*

<sup>40</sup> *Zëri i popullit*, March 23, 1974, cited this as output of the town, which produced 69 per cent of the region of that name.

without much of either mining or manufacturing.<sup>41</sup> Dibra, Kukës, Librazhd, Mat, Puka and Tepelenë were on that list, which differs from those at the bottom of the pre-war ranking by the promotion of Elbasan, to the metallurgical combine of which reference has already been made, and of Fier, where a nitrate ammonia works was an introduction which led local industrialization. Ten years after that date, Librazhd will have moved into the more developed group with the extension of the 'Elbasan-Librazhd Industrial Complex' covering three other towns, Qërrik (previously developed as the national centre for oil refining and petrochemicals), Peqini and Prrenjasin. By 1972 the Complex was producing about 30 percent of the country's industrial output, not only in ferrous metallurgy but locomotive-building (for the lengthening railway network) and cement-making and prefabrication.<sup>42</sup>

The scant progress made by the Mat region has some political significance. The Mati tribe was that of King Zog, highlanders of a tradition of fierce autonomy. One of the first major projects of the fifties was a substantial hydroelectric station and in the "seventies the railway was pushed north to open it up to modern communications. But no significant manufacturing was set up and the Party Leader, Enver Hoxha, took the occasion of attending a meeting of the Regional Party Committee in February 1972 of a policy statement that building new enterprises could often be replaced by the merger of small workshops, which could be thereby rendered more efficient and require fewer managerial and clerical staff per unit of output.<sup>43</sup>

His statement was followed (in a journal published in February 1973<sup>44</sup>) by an analysis of the economies of scale, e.g. that engineering enterprises with an annual output of 50 to 100 mn leks showed a labour productivity ranging from 1.5 to 2.5 times the mean of those with an output of only 2 mn leks. But the study did show that in Albanian magnitudes a fairly high level of concentration had been reached. In 1972 enterprises within the administration of the Ministry of Industry and Mining which employed over 500 staff (constituting 42 percent of those enterprises) produced three-quarters of industrial output; those of that size under the Ministry of Construction (30 percent of those enterprises) undertook four-fifths of building work, by value.

The contrary policy conclusion was, nevertheless, reached in an article which appeared later that year. In Korça region, it noted, there were eleven abandoned small power stations, already in disrepair since the villages they supplied had been linked into the national grid. The need for electricity remained so deficitary that local stations were still needed and every effort was called for to put such small stations back on stream, for the capacity already in them could furnish about 35 percent of the region's requirements.

Among the industrial projects for the Sixth Five-Year Plan are a hydroelectric station at Fierza, the completion of units at the Elbasan metallurgical works, a ferro-chrome refinery at Burrel and a copper refinery at Laç. Melioration work in Velipoja and Karavasta and irrigation in Mallkastra are, with further reservoir construction in the mountains the main construction objectives in agriculture. The rail-

<sup>41</sup> *Luçi, op. cit.*

<sup>42</sup> *Zëri i popullit*, November 8, 1972.

<sup>43</sup> *Ibid.*, February 27, 1972.

<sup>44</sup> *Probleme ekonomike*, No. 1, 1973.

way will extend from Fier as far as the port of Vlorë; by 1980 38 percent of freight shipped under the Ministry of Communications will be by rail.

TABLE III-1.—NET MATERIAL PRODUCT PRODUCED IN ALBANIA

[Millions of new leks at 1971 prices and index numbers]

	1950	1955	1960	1965	1970	1975	1980 plan
Actual value.....	1,391	2,370	3,325	4,411	6,830	9,426	13,100
Index, 1950=100.....	100	170	239	317	491	678	1,065
Index of quinquennial increments:							
Planned.....			153	156	145-150	155-160	138-140
Actual.....		171	148	151	155	138	

Source: Value of NMP in 1970 from table I-1; index numbers of actual outputs from Vjetari statistikor, 1965, p. 345, and 1969-70, p. 105, "R. P. Sh. në jubileun e 30 vjetorit të themelimit të PPSH," Tirana, 1971, p. 145, Zëri Popullit, July 25, 1976; plans from PPSH Dokumenta kryesore, vol. 1, pp. 283-311, for 1955 Plan and pp. 611-650 for 1960 Plan; vol. III, pp. 549-588 for 1965; 5-year Plan, Tirana, 1976, for 1980 Plan; actual 1955 from Anuari statistikor, 1959, p. 177.

TABLE III-2.—MAIN INDICATORS OF ALBANIAN 5-YEAR PLANS

[Percentage quinquennial increments]

	1951-55		1956-60		1961-65		1966-70		1971-75		1976-80 P
	P	A	P	A	P	A	P	A	P	A	
Global industrial output.....	339	179	92	118	52	39	50-54	83	61-66	52	41-44
Global agricultural output.....	71	38	150	26	72	29	41-46	28	65-69	33	38-41
State and cooperative investment.....		53	27	286	60	43	34	55	70-75	50	35-38
Freight transportation.....	300	115	208	149	44	66	41-46	53	65-70	45	30-32
Retail sales.....	100	105	42	94	38	36	25-27	45	36-39	35	22-25
Real income per head.....		20	25		30		15-17	17	14-17	15	11-14
Labour productivity:											
Industry.....	70	62	57	27		22		26-28	21	15-17	
Construction.....	67	40	44	29				34-36	28	12-13	

<sup>1</sup> Revised upward to 77.

<sup>2</sup> As published.

<sup>3</sup> Comparison of 1956-60 over average of 1951-55.

Source: Plan documents as specified in source to table II-2 and M. Shehu, "Report on the 5th 5-Yr Plan," Tirana, 1971, supplemented by "Vjetari statistikor, 1969-70," p. 43 for industry, 1965; 1965, p. 161 for agriculture 1955, p. 251 for investment 1955, and p. 263 for transportation 1955, and 1960, "Economic Survey of Europe, 1960," ch. VI, p. 22, for agricultural 1960 Plan and its revision, and in 1970, p. 92 for industrial productivity 1970 plan.

TABLE III-3.—INDICATORS OF CONSUMPTION AND ACCUMULATION OVER QUINQUENNIAL PERIODS IN ALBANIA

[Millions of new leks at current prices]<sup>1</sup>

	Consumption fund (percent)	Retail sales (Socialist sector) including tax	With tax added	Turnover tax	Accumulation fund (percent)	Gross fixed investment (Socialist sector)
1946-50.....						807
1950.....		2,560		195		214
1951-55.....	74.4	5,504			25.6	2,250
1955.....		1,154		629		356
1956-60.....	73.0				27.0	4,266
1960.....		2,252		1,134		1,137
1961-65.....	71.2				28.8	6,029
1965.....		2,759		1,300		727
1966-70.....	66.1	17,329			33.9	9,406
1970.....		43,881	4,008	2,137		2,207
1971-73.....						7,898
1973.....		4,872		2,766		
1975.....		45,240	45,411			
1980 plan.....	65.0	45,6470	45,6680			

<sup>1</sup> Prices of respective plan periods.

<sup>2</sup> Including private sales, 730.

<sup>3</sup> Percent of NMP utilized.

<sup>4</sup> Alternative series.

<sup>5</sup> Average of 22 and 25 percent increment over 1975.

Source: 30 vjet pp. 147, 189, 190; Vjetari statistikor, 1969-70, pp. 81, 98; 1971-72, pp. 115, 137, Anuari statistikor, 1958, p. 103, 123; 1975 retail trade from M. Shehu, Report to the 7th Party Congress, Tirana, 1976, and 1980 Plan for Consumption Fund and for retail sales from P. Dode, Zëri i popullit, Dec. 30, 1976.

TABLE III-4.—INDUSTRIAL OUTPUT AND PRODUCTIVITY IN ALBANIA

Year:	Global output (millions of leks at 1971 prices)	Net output (millions of leks at 1971 prices)	Employment (monthly averages)	Output per man (thousands of leks)	
				Global	Net
1950.....	461	160	20,759	22.5	7.7
1955.....	1,275	401	46,618	27.4	8.6
1960.....	2,781	955	66,460	41.8	14.4
1965.....	3,869	1,402	63,254	46.5	16.8
1970.....	7,104	2,896	137,123	51.8	21.1
1975.....	10,798	.....	172,220	62.7	.....
1976 plan.....	11,284	.....	.....	.....	.....
1977 plan <sup>1</sup> .....	12,333	.....	.....	.....	.....
1980 plan <sup>2</sup> .....	15,387	.....	211,650	*72.7	.....

<sup>1</sup> 9.3 percent increase over that planned for 1976.

<sup>2</sup> Average of a 41-44 percent increment over 1975.

\* Average of a 15-17 percent increment over 1975.

Source: Global output and employment from Vjetari statistikor, 1967-68, p. 43 and 1971-72, pp. 45, 55 (although that for 1965, p. 112, shows a higher series for employment (e.g. 22, 146 in 1950 and 70,855 in 1960). Global output per man in 1975 was 21 percent above 1970 (M. Shehu, Report to the 7th Party Congress and was to be 16-17 percent above 1975 in 1980 (P. Dode, Zëri i popullit, Dec. 30, 1976. Net output from NMP values in table III-1 and share of industry therein from table IV-15 (1955 and 1965 data from increases of net contribution of industry, Vjetari statistikor, 1967-68 p. 107).

TABLE III-5.—CROP YIELDS IN ALBANIA

[Quintals per hectare]

	1950	1971
Wheat.....	9.7	18.7
Maize.....	8.8	19.4
Potatoes.....	72.2	63.1
Sugar beet.....	45.1	263.7
Sunflower.....	5.0	8.8
Cotton.....	4.4	6.2
Tobacco.....	3.6	7.1
Beans (fasole).....	3.1	8.3

Source: Vjetari statistikor, 1971-72, pp. 86-98.

TABLE III-6.—AGRICULTURAL CREDIT IN ALBANIA

[Thousands of new leks]

	Cooperatives	Private
Year:		
1950.....	2,008	4,363
1955.....	15,710	5,744
1960.....	37,993	41
1965.....	38,571	.....
1970.....	126,570	.....
1971.....	92,959	.....
1973.....	93,019	.....

Source: Vjetari statistikor, 1971-72, p. 146; 30 vjet, p. 194.

TABLE III-7.—REGIONAL INDUSTRIAL OUTPUT IN ALBANIA

[Percentage of global output at 1971 prices]

	1950	1970
Berat.....	7.6	6.5
Dibër.....	2.6	1.4
Durrës.....	19.3	11.2
Elbasan.....	4.6	6.9
Fier.....	3.7	9.4
Gramsh.....	.1	.3
Gjirokastrë.....	4.6	2.3
Kolonjë.....	.4	.3
Korçë.....	12.0	7.7
Krujë.....	.8	2.6
Kukës.....	.9	1.5
Lezhë.....	.4	.7
Librazhd.....	.5	.8
Lushnë.....	1.5	1.7
Mat.....	.3	1.4
Mirditë.....	2.4	1.8
Përmet.....	1.1	.5
Pogradec.....	.8	1.2
Pukë.....	1.4	.8
Sarandë.....	2.5	2.3
Skrapar.....	.7	1.1
Shkodër.....	6.2	8.4
Tepelenë.....	1.1	.9
Tirana.....	15.2	21.5
Tropojë.....	.6	.3
Vlorë.....	8.7	6.5

Source: Vjerari statistikor, 1971-72, p. 61.

TABLE III-8.—RETAIL PRICES IN ALBANIA AND YUGOSLAVIA

[Leks per kilogram]

Ration prices	Albania		Yugoslavia	
	1956 (post-rationing)	1970	1970	1970
Bread.....	5.5	3.1	2.0	1.9
Flour.....	7.5	4.5	3.7	1.3
Rice.....	12.5	10.0	8.0	.....
Sugar.....	18.0	13.0	8.0	2.8
Soap.....	13.0	10.0	6.0	14.8
Dyed calico.....	.....	16.0	9.0	14.07
Dyed duck-cloth.....	.....	33.6	13.7	.....
White formed flannel.....	.....	23.0	12.8	5.6

<sup>1</sup> The yearbooks formerly gave washing as well as toilet soap. The price for toilet soap (14.4 dinars per kilogram has been adjusted on the ratio previously shown to washing soap in Titograd.

<sup>2</sup> Gingham.

Note: Kosovo prices for locally-grown foodstuffs would be above the averages shown, but the Yugoslav statistical yearbooks no longer show prices by city. In 1956 the price in Titograd (the city nearest Kosovo given in the yearbooks compared with the national average as follows: bread 55 dinars per kilogram against an average for the country of 45.3; flour 58 against 56. But the sugar price was uniform (145) and toilet soap was cheaper 500 against 598, but washing soap dearer (160 against 157)

Source: D. Gjiriti, Mbi mirëqenien e punonjësve të qytetit e të fshatit, 1973, p. 88; Statisticki godisnjak, 1975, pp. 297-8.

## IV. THE DEVELOPMENT OF INDUSTRY\*

A. *Albanian Industrial Development Prior to 1965*

This paper analyzes the attempts made by the Albanian Party of Labour to industrialise the Albanian economy since 1945. The discussion is divided into two parts which reflect the distinct phases of the industrialization drive. During the first phase from 1945 to around 1965 the only discernable feature of an industrial development strategy is the stated determination to increase the share of heavy industrial output in total industrial production at the expense of other sectors of the economy. Albania's reliance on material aid from first, the Soviet Union, and then, China, led to unplanned variations in rates of growth of Albanian industrial output, being determined as much by external as internal factors. The formulation of a strategy conceived as the eventual application of the 'scientific technical revolution' in 1967 opened the second phase to which the remainder of this paper is devoted.

Prior to World War II, Albania was the most backward country in Europe, with per capita industrial production at about \$8.<sup>45</sup> There were only 150 industrial enterprises in the country, and, of these almost half employed fewer than ten workers. The total contribution of industrial production to net material product was only 4.4 percent in 1938. Wartime damage to the infrastructure (roads, bridges, and dwellings) was heavy, but raw materials production capacity was enlarged: oil and chrome increased, and, the extraction of natural gas, copper, iron and manganese was begun. Consequently, when the PLA—or as it was then known, the Communist Party of Albania—came to power, it saw the establishment of manufacturing industry as the key to modernization of the Albanian economy. On the question of industrialization, the PLA's ideology was fully in accordance with the prevailing Marxist-Leninist doctrine, namely that socialism can not be built without a strong industrial sector, and that this branch must be developed as rapidly as possible. Thus, at the first Congress of the C.P.A., which was held, in November 1948, it was decided that the Party's:

... fundamental economic objective was to raise the country from its profound backwardness, through a vigorous development of the forces of production.

The essence of this task was the socialist industrialization, and the electrification of the country. The absolute necessity for industrialization was dictated by the need to create an entirely new material-technical base for the people's economy. . . . Socialist industrialization had to be carried out at a rapid rate, within the shortest possible time so as to overcome the backwardness inherited from the past, to ensure the independent development of the economy, and, to achieve an appreciable rise in the material and cultural level of the working masses.<sup>46</sup>

Whereas foreign aid to finance the industrialization drive had initially come from Yugoslavia, the break in relations between Tirana and Belgrade in 1948 led to the signing of the first economic agreement between Albania and the Soviet Union.<sup>47</sup> The extent of aid may be gauged from the 60 percent excess of imports over exports during 1951-58, most of the capital goods going to industry. At the end of

\*This section was prepared and written by Adi Schnytzer. See end of section for tables related to section.

<sup>45</sup> V. Misja, *Ekonomia popullore*, Jan.-Feb. 1965, p. 20.

<sup>46</sup> *History of the Party of Labour of Albania*, Tirana, 1971, p. 328 (hereafter *History*).

<sup>47</sup> N. C. Pano, *The People's Republic of Albania*, Baltimore, 1968, p. 84.

that period, a quarter of gross industrial output was being generated by machinery supplied by the U.S.S.R. The PLA had set ambitious targets at its Second Congress for the First-Five Year Plan (1951-55). The average annual rate of growth of total industrial production was planned to be 27.7 percent, comprising an increase in the production of means of production of 31 per cent per annum, and an average annual increase of 26.5 percent in the output of consumer goods.<sup>48</sup> The priority sectors during this period were mining, food and light industry, Albania's rich mineral reserves amounting for the huge projected increases in producer-good output.<sup>49</sup>

At the Fifth Plenum of the Central Committee of the PLA—convened on March 1, 1953, several days before Stalin's death—it was disclosed that the economic plan for 1952 had only been "realized in general".<sup>50</sup> The greatest failures occurred in agriculture. Thus, as the planned increases in agricultural activity had not been forthcoming, raw materials required for the industrial sector were in short supply and the industrial plans were doomed to failure with the consequent implications for the output of consumer goods.<sup>51</sup> Under these circumstances, the decision of the Fifth Plenum to increase plan targets for 1953 was surprising. On the other hand, it must be recalled that the plans of other Comecon countries were also revised upwards as a consequence of a meeting of Party leaders at Hollohaza, and, while Albania's First Five Year Plan targets were not ratified until March, 1952, it is possible that the upward revisions were brought about as a result of further Soviet pressure.<sup>52</sup>

Whilst the death of Stalin and Malenkov's New Course, and a consequent reduction in aid, were probably influential in changing Albanian economic policy, a realignment of priorities in planning in favour of agriculture and consumption were probably inevitable; in any event, ideologically inspired plans would have little meaning if they could never be fulfilled and would ultimately have been damaging by prolonging the vicious circle of shortages into which they had plunged the Albanian economy. The de-emphasis of industrialization was heralded at the Eighth Plenum of the Central Committee of the PLA on December 24th 1953. The distribution of investment was altered so that the majority went to agriculture and more than had done so previously to the production of consumer goods. The time horizon for the construction of some projects was extended, while other plant projects were cancelled; the arrears of grain and other agricultural product quotas for the period, 1949-52 were cancelled, the tax burden on the agricultural community was lightened, and retail prices of domestically produced farm implements were decreased.<sup>53</sup>

Given the irrationality of the pre-1954 targets for industrial production, it is perhaps a reflection of the relative success of the December 1953 measures that over the Five-Year Period, 1951-55, global industrial production increased at an average annual rate of 22.8 percent, as against the 27.7 percent originally planned, while the rate

<sup>48</sup> B. Bardhoshi, *Probleme te planifikimit dhe te zhvillimit te ekonomise se planifikuar ne R. P. Sh.* ("Problems of Planning and Development of the Planned Economy of the People's Republic of Albania"), Tirana 1965, p. 129.

<sup>49</sup> *ibid.*

<sup>50</sup> *PPSh Dokumenta kryesore*, ("Major Documents of the PLA", hereafter, *D.K.*) Vol. II, Tirana, 1972, p. 339.

<sup>51</sup> *History . . .*, p. 390.

<sup>52</sup> M. C. Kaser, *Comecon*, London 1967, 2nd edition, p. 49.

<sup>53</sup> *History . . .*, p. 382.

of growth of consumer goods output at 24.3 percent was greater than the 20.7 percent average annual increase in producer goods production.<sup>54</sup>

The major directives of the Second Five-Year Plan (1956-60) approved at the Third Congress of the PLA were modest compared with those of the First Five-Year Plan, although it was again intended that group A production would increase at a more rapid rate than the production of consumer goods. Thus, global industrial production was to increase at an average annual rate of 14 percent of which 14.8 percent group A and 13.5 percent group B.<sup>55</sup>

In direct contrast to the first two years of the First Five Year Plan, 1956, and particularly 1957, were good years of the Albanian economy. In the latter year, global industrial production rose by 26 percent and global agricultural production by 15 percent. Possibly, on the basis of these successes, there was an upward revision of plan targets in February 1958. The official reason for the changes was the discovery of "internal accumulation and reserves".<sup>56</sup> Thus, the target for the average annual rate of growth for the global industrial output was raised from 14 percent to 17.5 percent over the Five-Year period, the new rates for group A and group B respectively becoming 20 percent and 15.8 percent.<sup>57</sup>

In his address to the Fourth Congress of the PLA, it is not surprising that Mehmet Shehu compared the results of the Second Five-Year Plan to the targets set by the Third Congress for, while these were largely overfulfilled, the levels anticipated in 1958 were not attained. The global industrial production increase at an average annual rate of 16.9 percent, means of production 18 percent, and consumer goods output 16 percent.<sup>58</sup>

It should be noted that by February 1961 when the Fourth Congress convened Albanian relations with the Soviet Union had deteriorated almost to the point of rupture. The conflict between Albania and the Soviet Union had become public in 1960 at the Peking World Federation of Trade Unions meeting, when for the first time Albania openly supported China in its arguments against the Soviet Union.<sup>59</sup> Diplomatic relations between the Soviet Union and Albania were finally severed on December 3rd 1961. In the intervening period, credits of about \$132 million which had been promised to Albania for the Third Five-Year Plan by Comecon members were cancelled, Soviet experts left Albania, the Soviet naval base at Vlore was dismantled, and China provided \$123 million in aid and credits to replace those withdrawn by the Soviet Union and its allies.<sup>60</sup>

Several factors which probably determined the direction of Albanian involvement in the Sino-Soviet dispute should be noted. From an ideological point of view it is clear that the Albanian leadership was disturbed by Khrushchev's denunciation of Stalin, Hoxha believing that the framework established by Stalin for socialist construction represented the only validly Marxist-Leninist line. On the other hand, Soviet rapprochement with Yugoslavia in the late fifties may have

<sup>54</sup> B. Bardhoshi, *op. cit.*, p. 145.

<sup>55</sup> *D.K.*, Vol. II, p. 615-616.

<sup>56</sup> *History* . . . , p. 438.

<sup>57</sup> *D.K.*, Vol. III, pp. 163-4.

<sup>58</sup> *D.K.*, Vol. III, pp. 549-50.

<sup>59</sup> W. E. Griffiths, *Albania and the Sino-Soviet Rift*, Cambridge, Mass., 1963, p. 37.

<sup>60</sup> N. C. Pano, *op. cit.*, pp. 148-56.

appeared to Tirana to pose a threat to Albanian independence and Hoxha had already demonstrated his nationalistic tendencies in the dispute with Xoxe and Tito. Aside from these more compelling motivations to seek an alliance with China, other considerations should be noted. The PLA leadership's desire for independence in policy determination would undoubtedly be better catered for by China than the U.S.S.R. Further, while China could scarcely be expected to be as lavish with aid as the Soviet Union had been, the small size of the Albanian economy made it likely that the drain on China's resources would likewise be small. From a purely political standpoint, the popularity of the Albanian regime might well be raised by appeals to anti-slav feelings among the population, and the fact that the PLA had come to power without direct Soviet intervention, suggested that Soviet influence in the country would not be necessary to keep the Party in power. There is certainly evidence to suggest that the reverse might be true, in respect of Hoxha himself. According to Pano, the "Soviets . . . appear to have been involved in the preparation of an armed uprising by disaffected elements within Albania".<sup>61</sup>

An assessment of the implications of withdrawal of Soviet aid and Comecon's subsequent boycott on the performance of the Albanian industry over the period of the Third Five-Year Plan (1961-65) is complex.<sup>62</sup>

The Fourth Congress ratified a planned increase in global industrial production of 52 percent over the period. Group A output being planned to increase by 54 percent and Group B output by 50 percent.<sup>63</sup>

When the Soviet Union announced that all projected credits would be rescinded, the PLA convened a Plenum of its central committee which on July 1, 1961, issued a decision entitled, "On measures which must be taken for the further strengthening of the regime of the economy."<sup>64</sup> The essence of this document lies in its appeal to all Albanians to economize wherever possible; ministries were asked to make sure that unplanned losses within enterprises did not occur, workers were exhorted to use their equipment with the utmost care, and to think of ways in which capital might be raised in production. It was stressed that the volume of exports would have to rise if Albania were to be able to buy the machines and equipment from abroad which it needed. This was probably the first statement issued by the PLA which indicated that the economic situation was clearly going to be affected by the change in alliance from the Soviet Union to China. It has been claimed that as a consequence of cost reduction methods employed in 1961, 1700 million leks were saved. This figure represents 6 percent of the state budget for 1961.<sup>65</sup> Further, the plan for industrial production was overfulfilled by 5 percent and agricultural output rose by 22 percent over 1960 (which had however been a rather bad year).<sup>66</sup>

External pressure on the Albanian economy grew in 1962 when several Eastern European states cancelled promised credits.<sup>67</sup> However

<sup>61</sup> *Ibid.*, p. 137.

<sup>62</sup> *Ibid.*, p. 175.

<sup>63</sup> *D. K.*, Vol. III, pp. 558-9.

<sup>64</sup> *Ibid.*, Vol. IV, p. 9.

<sup>65</sup> *History . . .*, p. 491.

<sup>66</sup> *Ibid.*, p. 503.

<sup>67</sup> *Ibid.*, p. 504.

it seems that the major problem faced by the Albanian economy was technological rather than financial. No country in Europe had fewer experts than Albania in 1962. Further, the massive education drive undertaken after World War II was severely hampered when Albanian students in Comecon countries were forced to return home, their scholarships rescinded. This, together with the fact that foreign experts had left the country, and the Chinese had insufficient qualified cadres to replace them—the failure of the Great Leap Forward cannot have helped—meant that Albania was forced into a situation of “relying on its own resources.” This aspect of Albania’s development strategy is considered in more detail in the next part of this paper. In aggregate terms, the Third Five-Year Plan was a failure. The continuing priority for industry may be judged by the 98 percent increment reached by industry under the Plan with global agricultural output increasing by a mere 22 percent over the period, (the plan having called for an increase of 72 percent).<sup>68</sup> The plan for the increase in real income of the population also fell short of expectations.<sup>69</sup>

Notwithstanding Albanian industry’s failure to meet all targets, scrutiny of the evidence indicates that a 98 percent industrial achievement was remarkable, given that of the increase in agricultural output, 22 percent could be attributed to 1961 alone. This is particularly important in the Albanian context, since operating under close to ‘autarkic’ conditions, it was agriculture which had to supply many of the inputs to industry. On the other hand, it is equally possible that the sharp drop in rates of growth in the agricultural sector was caused by a shift in labour from that sector into industry in an attempt to meet the industrial plan as a first priority. Thus, while the absence of Soviet aid was to some extent responsible for Albania’s economic problems, against this must be weighed the benefits of independence in policy making which the PLA had won, even though these might only become more evident in the long term.

In general terms, it is possible to characterize the period up to 1965 as one of rapid, but erratic growth for the Albanian economy. Particularly, it should be noted that all three Five-Year Plans were revised in midstream either as a consequence of external factors, or following realizations that the original plan had been too ambitious. Industrial development proceeded in a similar direction, and, although high growth rates were achieved in all sectors, the relative weight of heavy industrial output in the total did not change significantly between 1950 and 1965. The relevant figures are given in Tables IV-1 and IV-2.

Several reasons may be advanced for the failure of the Albanian government to achieve its stated aim of heavy industrialization at all costs up to 1965. Firstly, it is possible that Soviet plant and equipment installed in Albania contributed to the development of food and light industry, and some extractive industries rather than mineral processing or capital good manufacturing industries. This would follow from Khrushchev’s oft expressed desire for the conversion of the Balkans into the “garden of Eastern Europe”. Secondly, although Albanian leaders and economists stressed—and continue to stress—the need to develop heavy industry at a more rapid rate than

<sup>68</sup> *D.K.*, Vol. V, pp. 207-8.

<sup>69</sup> *History . . .*, p. 532.

any other sector throughout the period of socialist construction, a specific strategy for the implementation of this goal was never put forward. Finally the chronic lack of expert managers and technicians as well as qualified workers, meant that it would be easier to achieve significant expansion in those areas of industry—such as food and handicraft—which had always existed in Albania, and did not demand the manipulation of modern technology.

It seems reasonable to argue that the failure of the heavy industrialization programme made the Albanian leadership aware that the “law of priority of the production of the means of production” may be an economic goal, but certainly does not represent a development strategy. The strategy implied by the “scientific-technical revolution”, the tactics for its implementation, and some of the known outcomes will be considered in detail after a discussion of some of the attempts made to improve the organization of the engineering industry in 1965.

### B. Engineering

Towards the end of 1965, articles in the Albanian press<sup>70</sup> began urging the engineering industry to increase the quantity and quality of its production by concentrating its capital stock, and specializing in its production to make gains from economies of scale, and to develop such links as were possible between enterprises in the industry to facilitate cooperation in production. Although there is no evidence that these measures were taken at the time—and some to the contrary judging by the events of 1967—it is important to note that the tactics of concentration, specialization and cooperation were to prove important weapons in the attempted implementation of the “scientific-technical revolution”.

The Albanian engineering industry is concerned with the production and repair of machine spare parts, various tools and equipment and some consumer goods. In 1967, 40 percent of its output came from Tirana.<sup>71</sup>

At that time, the industry employed about 12,000 people.<sup>72</sup> This represents about 12 percent of total employment in industry in Albania. The industry shared many of the problems common to the rest of the economy, such as emphasis on global indicators at the expense of assortment, considerable resource waste, loss of time due to delays in obtaining inputs and generally poor coordination of the production process.<sup>73</sup> It is this latter problem, namely the allocation of resources in the industry—including labour, which appears to be most typical of the situation in industry as a whole.<sup>74</sup> Technical inefficiency is a good example. Thus, the quality of output is prejudiced as early as the input phase, by the fact that poor quality raw materials, or what is perhaps worse, steel of indeterminate quality i.e. steel whose quality has not been documented is provided to the enterprise.<sup>75</sup> The next contribution to inefficiency and poor quality arises because the majority of the production processes of the industry have not

<sup>70</sup> See, for example, *Bashkimi*, 2/7/1965, pp. 2-3.

<sup>71</sup> V. L. Gjeci and A. Progri, *Ekonomia Popullore*, July-Aug. 1967, pp. 32-43.

<sup>72</sup> *Zëri i popullit*, 6/5/1967, pp. 2-3.

<sup>73</sup> *Zëri i popullit*, 6/9/1967, p. 3.

<sup>74</sup> Albanian manpower planning is discussed in Section III above.

<sup>75</sup> *Zëri i popullit*, 6/9/1967, p. 3.

been set out in detailed technological charts, but rather, goods are produced with reference to an existing sample. Under these circumstances, it would be almost impossible to ensure the standardization of output. Some measure of the extent of this particular problem is given by the fact that of the 330 items produced in quantities greater than 100 units per year at one of the largest plants in Tirana, operational or pending technological charts and accurate drawings of the final products existed for only 35. When the output is finally produced very little of it undergoes the thermal or galvanic processing necessary to increase its life.<sup>76</sup>

The Third Plenum of the Central Committee of the PLA was convened on October 13th 1967.<sup>77</sup> The speakers at the Plenum stressed the importance of a thorough reorganization of the engineering industry, conceding that earlier attempts had failed, and outlined, for the first time a precise development strategy for Albanian industry. Albania's conflicts with first Yugoslavia and then the Soviet Union, were cited as important reasons why the PLA should make every attempt to ensure that Albania's economic development took place with the greatest possible reliance on the country's natural resources, and that the Albanian economy should one day be self-sufficient. There seems little doubt that Albania's natural resource endowment was a crucial factor in convincing the PLA leadership that economic independence was a real possibility. It was decided that three branches of industry should be given priority, and developed as rapidly as possible—the electrical, chemical and engineering industries.

The decision to use electricity as the economy's major source of energy was determined by the fact that Albania is a mountainous country with many rivers providing an ideal basis for hydroelectric sites. Thus, while the construction of power stations involves high initial investment, running costs are low, and a large proportion of the construction costs would probably be borne by China. Further, the use of electricity would allow Albania to concentrate on oil production largely for export purposes, thus potentially covering the running costs out of foreign exchange earnings. Finally, from an ideological standpoint, the plan to provide every Albanian village with electricity—a goal achieved in 1971—provided the PLA with a focal point for mass mobilization drives, and concurred with Lenin's stress on electrification in the Soviet Union.

The importance of the chemical industry in the "scientific-technical revolution" is also affected by natural resource endowments. The extraction and processing for final use—both domestically and externally—of minerals requires the application of chemical-intensive technology, the chemical inputs often being available as part of the same resource base. Thus, as is the case for electricity, once the initial investment required for the construction of the relevant plants has been financed—again using aid from China—the processes can be maintained domestically. The potential cost saving for industry promised by the use of organic synthetics such as plastic also provided an incentive to develop a strong chemical industry.

From the viewpoint of comparative advantage, the development of electrical and chemical industry in Albania might be arguably justified—although the PLA is clearly not concerned with trade as a means

<sup>76</sup> *Zëri i popullit*, 12/8/1967, p. 3.

<sup>77</sup> For the published proceedings see *D.K.*, Vol. V, pp. 349-372.

of ensuring economic efficiency. Thus, the drive for economic independence necessitated high priority in an industry unlikely to be suited to Albanian conditions from a purely economic angle. The motivation for giving the engineering industry priority is clear; namely if Albania can produce all the spare parts needed to service her current capital stock and, eventually produce the majority of additions to that stock she will have achieved economic independence in the industrial sphere. It may be mentioned in passing that self-sufficiency in agriculture has always been a goal of the Albanian authorities.<sup>78</sup> Given the marked scope for increases in agricultural productivity, the development of the engineering industry is of relevance in this context as well.

It should be noted that the Albanian notion of self-sufficiency for the engineering industry implies heavy reliance on existing levels of technology. While it has been stressed that world advances in scientific research should be made known to Albanian planners, the insistence that such advances should be incorporated into new plant using largely domestically available facilities seems unrealistic. This point is amplified after a more detailed consideration of the concepts of concentration, specialization and cooperation in the context of developments following the Third Plenum.

The uncoordinated nature of the engineering industry's development prior to 1967 is made clear by the fact that, at that time, the industry consisted of three large enterprises in Tirana and a series of small workshops located throughout the country. Further, the output of the industry was not highly specialized, the volume of production of the engineering industry representing only 61 percent of the total output of the goods it produced in 1966.<sup>79</sup>

Thus, it is not surprising that the first element in the reorganization of the industry was to be the concentration of its capital stock—mainly machine-cutting equipment—in a small number of enterprises to make gains from economies of scale.

It is interesting to note that the above-mentioned attempts made in 1965, to concentrate machine-cutting equipment in a small number of plants, were resisted by enterprises directors who allegedly wanted as many machines around them as possible, even if they were not in use, and—perhaps with some justification—feared that once the machine left the enterprise no one would know what happened to it.<sup>80</sup> However, following the Third Plenum, the concentration of metal-cutting equipment led to the establishment of several new enterprises, and the expansion of some already in existence. Thus, because machines which had previously been unused due to the lack of qualified workers were reallocated more rationally, the capacity of the engineering industry was increased without significant additional investment, or, a reduction in the production of other sectors.<sup>81</sup>

The second feature of the reorganized engineering industry, which could only come about as a consequence of concentration, was to be specialization of production. Thus, attempts would be made to avoid "unnecessary duplication in production,"<sup>82</sup> and to obtain the benefits of mass production wherever demand warranted it. The more common

<sup>78</sup> See Section III for a note on Albanian agriculture.

<sup>79</sup> M. Papajorgji and E. Luci, *Mbi disa probleme të përgendrimit, specializimit e kooperimit në industri*, ("On Some Problems of Concentration, Specialization and Cooperation in Industry"), Tirana, 1968, p. 143.

<sup>80</sup> T. A. dani, *Rruga e Partisë*, 11/1965, pp. 68-75.

<sup>81</sup> *Bashkimi*, 22/2/1969, pp. 1-5.

<sup>82</sup> *Ibid.*

use of continuous production lines was expected to reduce costs due to time lost in the setting up of machinery, or changing tools where production had previously been organized on a handicraft basis. Finally, it should be noted that specialization was only to be applied to the education of cadres with care. Thus, Gambeta<sup>83</sup> notes the risk of producing "professional idiots" and explains that both technical progress and socialism require polytechnization in the training of cadres.

The third step in the reorganization of the engineering industry required increased cooperation between enterprises. This meant that whenever certain goods could only be produced with capacity located in different enterprises, the relevant enterprises would enter into contractual agreements occupying a special place in the state plan. Thus, for example, a machine producing plant may make arrangements for the use of thermal processing or galvanizing equipment necessary for its production, but only available at a nearby enterprise with the required equipment not operating at full capacity.

Finally, the "scientific-technical revolution" laid great stress on the maximal exploitation of capacity in the engineering industry. According to PLA Central Committee Secretary Xhafer Spahiu, this could only be achieved if the "Party, Government and economic organs" made particular note of the following:

The maximum exploitation of inventoried machinery and mechanisms. Because there are various enterprises which do not utilize all their available machinery.

The elimination of bottlenecks through partial reconstruction of various lines, units and machinery aggregates so as to harmonize the productive capacity of various technological processes within the enterprise.

The improved utilization of calendar time by increasing the amount of actual working time between repairs. To this end, three-shift working of repair squads should be tried, as well as the preparation in advance of those spare parts which are more often damaged.

The reduction of construction time and the mastering of the productive capacity of new projects is also of great importance in this direction.

In addition, other ways and possibilities should be found and studied, according to the concrete conditions in each and every enterprise or branch of the economy.<sup>84</sup>

From the above discussion it follows that the most important feature of the reorganization of the engineering industry was an attempt to increase technical efficiency and levels of output by concentration, specialization, and cooperation without a heavy investment program. This was made possible by the extent of underutilization of capacity due to *ad hoc* allocation, and lack of skilled workers up to 1967. On the other hand, the engineering industry was not capable of producing sophisticated capital equipment, and only had the plant capable of producing spare parts and other simple metal products. Thus, while the long term aim of economic independence would be made possible by the import of more machinery than Albania could then—or for that matter now—afford in the short term, it was decided to attempt to become self-sufficient in spare parts production as a first step.

The problem of integrating world advances in technology into Albanian production processes has already been mentioned. The "scientific-technical revolution" attempted to take it into account with a call for improvements in the organization of technological research

<sup>83</sup> *Zëri i popullit*, 19/4/1968, p. 3.

<sup>84</sup> *Bashkimi*, 22/2/1969, pp. 1-5.

in the country, particularly at enterprise level. Problems of technical progress are dealt with in enterprises by the technological and design bureau, and any laboratories in their jurisdiction. The way in which the work of the bureau is carried out in the Tractor Spare Parts Factory has been cited in the press as an example for all to follow. In this plant

... the engineers, technicians and workers of the technological and design bureaus go down to the production units and consult with the production workers before starting to plan and to establish the production technology for any given part. Later on the planners follow up the application of the technological process decided upon throughout the experimental stage and also during the stage of actual production. In this way the engineers and other workers of the bureau are in continual touch with every phase of studying, planning and experimenting and production. In addition to facilitating and speeding up planning and to avoiding or minimizing possible mistakes, this method of working also helps safeguard the cadres from the dangers of technocracy and helps to forge close links between planning and production workers and vice versa. This method also helps to raise the technical standard of the workers, thus implementing Comrade Enver's teaching that "practice aid theory and theory aids and guides practice".<sup>85</sup>

This emphasis on cadre-worker relations was part of the broader ideological movement sweeping Albania at the time—and discussed in section II—and was not indigenous to the "scientific-technical revolution".

### C. The Advent of Mathematics

From an ideological point of view, perhaps the most surprising product of the "scientific-technical revolution", was the introduction of mathematical economics into the armory of the Albanian planners techniques. However, a close examination of the ways in which these techniques are used by the Albanian planners, reveals that at no stage are the concepts of marginal economics being used. Although a detailed discussion of this topic would be beyond the scope of this paper, one example from the area of linear programming will be illustrative of the general practice.<sup>86</sup> The problem to be solved is the determination of the optional product-mix for a firm producing several outputs using a variety of fixed and variable inputs. It may be formulated as follows:

$$\text{Max. } \sum_{i=1}^n P_i X_i \quad (1)$$

$$\text{St. } A_i \leq X_i \leq B_i \quad (2)$$

$$\sum_{i=1}^n \sum_{j=1}^m C_{ij} X_i \leq C_j \quad (3)$$

$$\sum_{i=1}^n \sum_{k=1}^L d_{ik} X_i \leq D_k \quad (4)$$

$$\sum_{i=1}^n W_i X_i \leq W \quad (5)$$

$$\pi \leq \sum_{i=1}^n \pi_i X_i \quad (6)$$

$$0 \leq X_i \quad (7)$$

<sup>85</sup> *Ibid.*

<sup>86</sup> V. Kedhi and E. Luçi, *Programimi linear në problemat ekonomike* ("Linear Programming in Economic Problems"), Tirana, 1970.

where  $X_i$  is the quantity of the  $i$ th product

$P_i$  is the retail price of good  $i$ , net of retail mark up, i.e. cost plus turnover tax.

$A_i, B_i$  are respectively, the lower and upper limits on the production of good  $i$  set by the planners,

$C_{ij}$  is the number of machine-hours required for the production of a unit of good  $i$  when machine  $J$  is in use,

$C_j$  is the capacity constraint, expressed in machine-hours, on the operation of the  $J$ th machine,

$d_{ik}$  is the quantity of the  $k$ th variable non-labour input, expressed in the appropriate physical terms, required for the production of one unit of good  $i$ ,

$D_k$  is the total available quantity of variable non-labour input  $k$ ,

$w_i$  is the wage cost incurred in the production of a unit of good  $i$ ,

$W$  is the enterprises planned wage fund,

$\pi_i$  is the profit deriving from the (assumed guaranteed) disposal of a unit of good  $i$ ,

and  $\pi$  is total planned enterprise profit.

Prior to a consideration of the advantages and disadvantages appending the use of the above computation, the special place accorded labour in the model should be noted. Thus, whereas other inputs are treated as heterogeneous and their use measured in physical units, labour is assumed to be homogeneous and wages are used in preference to labour time. It should also be noted that, probably for ideological reasons, the objective function represents revenue rather than profit. From a macroeconomic viewpoint, the solution of the above problem by an Albanian enterprise cannot yield tangible benefits since the allocation of resources to the enterprise has been predetermined without considering the opportunity cost of using them elsewhere. Further, the output-mix arising from the solution is rendered arbitrary in macroeconomic efficiency terms by the arbitrary nature of the  $P_i$ ; in particular their turnover tax component.

At enterprise level, the model provides significant advantages over the likely outcomes in a situation where mathematical optimization is not used. First, the enterprise is provided with a means for testing the feasibility of the plan in terms of the indicators in the model. Thus, if the enterprise director can assume that all the necessary input will be delivered on time—not very likely—and that his world is linear—in this case, more likely then, if the solution to the program yields a set of non-negative  $X_i$ , his production plan is feasible. If not, he can indicate this to the planners and perhaps arrange for appropriate adjustments. Second, the formulation of the problem is unlikely to conflict with the optimization of bonus-receipts by management and the workers, since, according to the law on the enterprise special fund,<sup>87</sup> equal weighting is given to the fulfillment of production, cost-reduction and profit plans in the distribution of bonuses. Further, the emphasis in Albania since 1965 has been on a continual replacement of material by moral incentives. (A discussion of this problem is beyond the scope of this paper, see, however, section II.)

Finally, it should be noted that the concept of duality has had only limited coverage in the Albanian mathematical economics

<sup>87</sup> *Përmbledhëse e Përgjithshme e legjislacionit në fuqi të R. P. Sh. [1945-71]*, ("A general Collection of Legislation in Force in the P.R.A. [1945-71]"), Tirana, 1971, p. 426.

literature. When linear programming is explained from a purely mathematical angle, the existence of a dual problem for every primal is acknowledged. However, the economic interpretation of programmes always excludes mention of duality, for ideological reasons. Authors in the field invariably include a section on the use of mathematics in their papers, explaining that economic problems can only be solved within the framework of the PLA's conception of laws of political economy, and that the introduction of shadow costs, or other concepts of marginal economics represents a return to capitalism—as in the rest of Eastern Europe—and makes economic science a slave of mathematics.

#### D. The "Scientific-Technical" Revolution

Prior to a consideration of the performance of Albanian industry as a whole since the formulation of the "scientific-technical revolution" an examination of performance by the three priority industries will prove useful in highlighting some of the predictable advantages and disadvantages of the development strategy discussed earlier in this paper. Some figures for the output of the electrical, chemical and engineering industries are given in tables IV-3, IV-4 and IV-5.

It is not surprising that the industry facing the most difficulties since 1967 has been the engineering industry, representing the most ambitious part of the industrialization program. By 1973, the industry had raised the output of spare parts by 310 per cent over 1965,<sup>88</sup> and the proportion of domestic production to imports has risen as shown in table IV-6. According to the indicators of the Sixth Five-Year Plan (1976-80), Albania will be 95 per cent self-sufficient in spare parts by 1980.<sup>89</sup> Given that the engineering industry fulfilled its target of doubling output during the Fifth Five-Year Plan period (1971-75),<sup>90</sup> it is possible that the planned proportions in table IV-6 were met or even exceeded.

However, notwithstanding the unambiguous success of the industry in terms of increased levels of output and import substitution, efficiency remains a problem. Thus in 1970 one of the largest enterprises in the industry lost an estimated 8 per cent of its production through unexcused worker absenteeism while still fulfilling its production plan 100.3 per cent.<sup>91</sup> Further, in 1971, the industry as a whole failed to meet its plan for labour-time, 11 per cent of the deficit occurring for the same reason.<sup>92</sup> Perhaps the most general indicator of this problem is global output per man in the industry computed at current prices. Between 1967, the first year of the "scientific-technical revolution", and 1971, the figure actually fell from 35,300 leks per man to 27,324 leks per man.<sup>93</sup> Global output per man for the whole of industry is shown in table IV-7. On the other hand, while output per man in the engineering industry remains below the level of other sectors—probably as a consequence of expertise problems and misallocation of labour with concomitant disguised unemployment—the

<sup>88</sup> A. Këllezi, *Probleme Ekonomike*, 3/1974, pp. 3-20.

<sup>89</sup> M. Shehu, *Report to the Seventh Congress of the PLA*, Tirana, 1976, p. 48.

<sup>90</sup> *Ibid.*, p. 17. It should be noted that this statement is contradicted by the figures in table 17, but by a very small margin.

<sup>91</sup> P. Bollano, *Probleme të drejtimit të prodhimit socialist* ("Problems of Managing Socialist Production"), Tirana, 1972, p. 123.

<sup>92</sup> B. Xhaja and O. Murati, *Probleme të ekonomisë dhe të organizimit në Industrinë mekanike*, ("Problems of Economics and Organization in the Engineering Industry"), Tirana, 1974, p. 29.

<sup>93</sup> *Vjetari statistikor*, 1967-8 and 1971-2.

share of the industry's production in global industrial output rose from 5.7 percent to 9.8 per cent between 1965 and 1970,<sup>94</sup> while the percentage of total capital investment in machines and equipment rose by a smaller amount, from 36.7 percent in 1961-1965 to 38.6 percent in 1966-1969.<sup>95</sup> This is probably accounted for by the increased production made possible by concentration of capital and an improved use of capacity.

The relative scarcity of detailed statistics precludes a complete assessment of the degree of success of the "scientific-technical revolution" in quantitative terms. However, some useful conclusions may be drawn on the basis of general indicators. From table IV-2, it is clear that between 1965 and 1973 the contribution of heavy industry in general, and the engineering industry in particular, increased markedly the latter's weight in global industrial production rising from 5.7 percent to 12.9 percent. Tables IV-8 to IV-14 give some indication of the increases in levels of output achieved by other sectors of industry while table IV-15 shows the composition of net material product by sector for several years up to 1973. From these tables it is clear that the rates of growth achieved by the various sectors of industry, have been high enough to allow the Albanian economy to enter the 'seventies with industry accounting for more of net material product than agriculture. What is more interesting about these figures, from the viewpoint of the PLA's industrial development strategy, is that the publication of these statistics comes to an almost complete halt with the figures for 1973. An analysis of the available data on industrial plans and their fulfillment in recent years indicates that there was a significant slow-down in industrial growth rates between 1974 and 1976. The available data are summarized in tables IV-16 and IV-17.

The reasons for the reduced industrial output targets in 1974, 1975 and 1976 and the failure to achieve the level of output demanded by the Fifth Five-Year Plan are not clear. The Western press has often reported rumours of a crisis in relations between Albania and China with a consequent reduction in Chinese aid. However, neither Albanian nor Chinese sources provide any evidence to support this contention having, on the contrary denied the existence of strained relations between the two countries. Further, the target of a 9.3 percent growth rate for global industrial production in the 1977 state plan,<sup>96</sup> suggests that the cause of the difficulties has been removed. Since 1973 and 1974 were, broadly speaking, years of 'moderate' ascendancy in the Chinese leadership and given that this faction of the Chinese Communist Party is even stronger today, Albania's relations with China are unlikely to have altered sufficiently to suggest that they are important in explaining a slow-down in Albanian industry.

<sup>94</sup> Table 2.

<sup>95</sup> *Ekonomia e industrisë në R.P.Sh.* ("The Economics of Industry in P.R.A."), Tirana, 1972, Vol. II, p. 337.

<sup>96</sup> *Zëri i popullit*, /12/1976.

An alternative hypothesis which is superficially appealing may also be dismissed; namely, that the dramatic increase in world oil prices towards the end of 1973 made the import of producer goods more difficult for Albania, as it has indeed done for many underdeveloped countries. This explanation is not suitable because the world prices of manufactured goods did not rise as rapidly in 1974 as the prices of Albania's major exports, oil, chromium, copper and agricultural produce. Thus, on the basis of the Oil Crisis Albanian industry should have benefited if not remained unaffected.

The most likely cause of Albania's difficulties appears to involve in some way, the purging of such important figures as the Chairman of the State Planning Commission and the Ministers of Defence, Industry and Mining, and Commerce. In his report to the Seventh Congress of the PLA, Premier Shehu <sup>97</sup> denounced the purge victims as traitors involved in a conspiracy with "foreign revisionists" against Albania. More specifically, Shehu accused <sup>98</sup> former Chairman of the State Planning Commission Kellezi, former Minister of Industry and Mining Theodhosi "and others in the economic sector" of sabotaging the oil industry while Hoxha in his report <sup>99</sup> blamed those purged for the failure to complete certain construction projects as well as the shortfalls in the plans of the oil, chromium, copper, coal, bread grain and industrial crop sectors. Referring to the oil industry,<sup>1</sup> Hoxha charged Kellezi and Theodhosi with using "refined methods to disorient exploration" and mismanage the industry and with preventing the exploitation of new sources of oil and gas as using "barbaric" methods for the exploitation of existing wells.

The extent to which these accusations are fully grounded may never be known. However, it is possible that a split occurred within the PLA over industrial policy in the early seventies, the recent purges representing a victory for the Hoxha faction of the party. The grounds for such a split would almost certainly have been disagreement over the policy of self-reliance, the defeated faction perhaps arguing that it would be in Albania's interest to follow China's lead in opening its doors to the West. Foreign borrowing from Western Europe or the United States to finance industrialization might then be one of the economic outcomes of the change in foreign policy.

If this hypothesis is correct, it follows that those arguing the position—and in the leading economic positions—would call for an easing of tension in the plans for industry, the 1975 and 1976 plans indicating that they were, for a time, in the ascendancy. Whether this was or was not the case, one thing remains clear; the extent to which Enver Hoxha's policies in general, and the goal of self-sufficiency for industry in particular, are carried on after his death will be determined largely by the degree to which the Albanian economy is standing on its own feet when he leaves it.

<sup>97</sup> M. Shehu, *op. cit.*, p. 5.

<sup>98</sup> *Ibid.*, p. 17.

<sup>99</sup> E. Hoxha, *Report to the Seventh Congress of the PLA*, Tirana, 1976, *passim*.

<sup>1</sup> *Ibid.*, p. 39.

TABLE IV-1.—GROWTH OF GLOBAL INDUSTRIAL PRODUCTION SINCE=1938

[Index, 1938=1]

Branch of industry	1950	1960	1970	1973
Oil .....	4	22	56	72
Coal .....	11	79	193	258
Chrome .....	8	42	68	90
Copper <sup>1</sup> .....	5	12	193	230
Iron-nickel <sup>2</sup> .....	4	4	15	15
Electrical energy .....	2	24	109	168
Engineering .....	4	21	141	253
Chemical .....	1	10	164	218
Construction materials .....	4	30	99	153
Glass and ceramics <sup>3</sup> .....	1	34	215	324
Timber and paper .....	6	65	46	142
Light .....	1	23	55	65
Polygraphic .....	7	81	242	310
Food .....	6	23	42	56

<sup>1</sup> Against 1946.<sup>2</sup> Against 1958.<sup>3</sup> Against 1950.

Source: 30 vjet shqipëri socialiste, Tirana, 1974 (hereafter 30 vjet \* \* \*), p. 63.

TABLE IV-2.—WEIGHT OCCUPIED BY BRANCHES IN GLOBAL INDUSTRIAL PRODUCTION

Branch of industry	1938	1950	1965	1970	1973
Oil .....	7.8	6.9	6.2	6.8	6.5
Coal .....	.4	1.4	1.5	1.47	1.3
Chrome .....	.8	1.3	1.0	.8	.8
Copper .....		2.0	2.7	4.5	3.1
Iron-nickel .....			1.1	1.7	1.2
Electrical energy .....	2.1	1.0	2.4	3.5	4.0
Engineering .....		.3	.9	3.5	3.4
Chemical .....	4.4	4.1	5.7	9.8	12.9
Construction materials .....	4.1	3.6	4.5	6.4	7.3
Glass and ceramics .....		.1	.7	.8	1.0
Timber and paper .....	4.3	6.7	9.0	7.9	7.0
Light .....	25.6	8.6	23.1	21.9	19.4
Polygraphic .....	.2	1.5	.7	.9	1.0
Food .....	44.9	62.0	40.7	29.5	29.0

Source: 30 vjet \* \* \*, p. 65.

TABLE IV-3.—PRODUCTION OF ELECTRICAL ENERGY

[1971 prices]

	1973 (million kWh)	Growth (in times) by 1973			1970
		1938	1950	1960	
Total .....	1,603	172	75	8	1.7
Hydro source .....	1,127			9	2.5
Thermo source .....	476	172		7	1.0

Source: 30 vjet \* \* \*, p. 75.

TABLE IV-4.—CHEMICAL INDUSTRY PRODUCTION

[1971 prices]

Unit of measure	1973	Growth (in times) by 1973			1970
		1960	1965	1970	
Total .....	Million lek	326	23	9	1.3
Phosphate fertilizer .....	Thousand tons				1.0
Nitrate fertilizer .....	do	106			1.4
Calcium hydroxide (sodë e kale- inner) .....	do	21			1.9
Caustic soda .....	do	16			1.2
Oil and enamel paints .....	do	2		4	1.9

Source: 30 vjet \* \* \*, p. 85.

TABLE IV-5.—ENGINEERING INDUSTRY PRODUCTION

	1973 (million lek)	1971 prices— Growth (in times) by 1973		1970
		1950	1960	
Total.....	1,239	65	12	1.8
Machines and equipment.....	274	119	10	1.8
Spare parts.....	238	60	10	1.6

Source: 30 vjet \* \* \*, p. 81.

TABLE IV-6.—Ratio of domestic production to imports of spare parts

1965.....	37:63
1970.....	52:48
1971.....	53:47
1972.....	58:42
1973.....	61:39
1974 (plan).....	62:38
1975 (plan).....	68:32

Source: *Probleme Ekonomike*, 1/1976.

TABLE IV-7.—Global industrial output per man, 1971 prices

(Thousand Leks per man)

1950.....	22.16
1960.....	41.82
1970.....	53.17
1973.....	59.68

Source: 30 vjet . . . , p. 12, 55.

TABLE IV-8.—OIL INDUSTRY PRODUCTION

[1971 prices]

Unit of measure	1973	Growth (in times) by 1973				1970
		1938	1950	1960		
Total..... Million lek.....	624	72	20	3	1.3	
Crude oil..... Thousand tons.....	2,107	20	16	3	1.4	
Refined oil..... do.....	1,596		28	4	1.2	
Paraffin..... do.....	35		11	17	2.3	
Diesel fuel..... do.....	174		42	3	1.2	
Motor spirit..... do.....	91		18	1	1.2	
Bitumen..... do.....	972		27	5	1.4	

Source: 30 vjet, p. 66.

TABLE IV-9.—THE EXTRACTION AND PROCESSING OF MINERALS

[1971 prices]

Unit of measure	1973	Growth (in times) by 1973				1970
		1938	1950	1960		
Total..... Million lek.....	774	60	23	5	1.3	
Coal..... Thousand tons.....	811	219	20	3	1.3	
Dhrome mineral <sup>1</sup> ..... do.....	611	87	12	2	1.3	
Blister copper..... do.....	455		32	7	1.3	
Copper wire..... do.....	4				1.2	
Iron-nickel mineral <sup>2</sup> ..... do.....	384			2	1.0	

<sup>1</sup> 1946=1.

<sup>2</sup> 1958=1.

Source: 30 vjet, p. 71.

TABLE IV-10.—CONSTRUCTION MATERIALS PRODUCTION

[1971 prices]

Unit of measure	1973	Growth (in times) by 1973				1970
		1938	1950	1960	1970	
Total .....	Million leks.....	704	153	42	5	1.5
Cement .....	Thousand tons.....	518	58	33	7	1.5
Bricks and tiles.....	do.....	307	77	17	2	1.3

Source: 30 vjet, p. 91.

TABLE IV-11.—TIMBER AND PAPER PRODUCTION

[1971 prices]

Unit of measure	1973	Growth (in times) by 1973				1970
		1938	1950	1960	1970	
Total .....	Million leks.....	680	142	22	2	1.2
Sawn timber.....	Thousand M <sup>3</sup> .....	208	65	4.0	1.2	1.1
Plywood timber.....	do.....	8	-----	-----	1.4	1.1
Wood shavings and rope.....	Thousand M <sup>2</sup> .....	612	-----	-----	-----	1.3
Furniture.....	Million leks.....	90	-----	18	2.6	1.3
Stationery.....	Thousand tons.....	16	-----	-----	25	178

Source: 30 vjet, p. 92.

TABLE IV-12.—LIGHT INDUSTRY

[1971 prices]

Unit of measure	1973	Growth (in times) by 1973				1970
		1938	1950	1960	1970	
Total .....	Million leks.....	1.862	65	47	3	1.2
Textiles.....	Thousand metres.....	48.476	135	43	2	1.1
"Stofra" <sup>1</sup> .....	do.....	10.306	-----	-----	3	1.1
Stock.....	Thousand pairs.....	4.390	-----	13	4	1.4
Knitwear.....	Thousand units.....	5.337	71	-----	4	1.3
Shoes.....	Thousand pairs.....	4.172	19	14	3	1.1

<sup>1</sup> A form of textile product.

Source: 30 vjet, p. 93.

TABLE IV-13.—FOOD PRODUCTION

[1971 prices]

Unit of measure	1973	Growth (in times) by 1973				1970
		1938	1950	1960	1970	
Total .....	Million leks.....	2,792	56	10	2	1.3
Macaroni.....	Thousand tons.....	20	43	6	2	1.4
Various fats.....	do.....	10	5	7	3	1.0
Cheese.....	do.....	7	10	9	3	1.2
Sugar.....	do.....	17	-----	27	1	1.1
Beer.....	Thousand hl.....	144	32	7	2	1.2

Source: 30 vjet, p. 97.

TABLE IV-14.—PER CAPITA OUTPUT OF MAJOR INDUSTRIAL PRODUCTS

Commodity	Units of measure	1938	1950	1960	1970	1973
Crude oil.....	Kilograms.....	104	108	452	696	918
Coal.....	do.....	3.5	34	181	283	353
Chrome mineral.....	do.....	6.7	43	180	218	266
Copper mineral.....	do.....		12	51	159	199
Blister copper.....	do.....		.8	.6	2.6	3.0
Iron-nickel mineral.....	do.....			159	187	167
Electrical energy.....	Kilowatthours.....	8.9	18	121	442	699
Sawn timber.....	Decimeter.....	3	42	106	89	91
Cement.....	Kilograms.....	8.7	13	45	162	226
Bricks.....	Units.....	3.3	11.6	81	98	123
Tiles.....	do.....	.6	2.9	22	14	10
Textiles.....	Mililiter.....	.3	.9	14	21	21
"Stofra" <sup>1</sup> .....	do.....			2.5	4.5	4.5
Shoes.....	Pairs.....	.2	.2	.8	1.7	1.8
Macaroni.....	Kilograms.....	.4	2.6	5.2	6.6	8.4
Sugar.....	do.....		.5	8.3	7.2	7.3
Edible fats.....	do.....	2.1	1.2	1.8	4.3	4.4
Soap.....	do.....	1.2	.8	2.3	4.4	4.6
Fish.....	do.....	.8	1.2	1.6	2.0	2.3
Beer.....	Litres.....	.4	1.7	4.3	5.5	6.3
Cigarettes.....	Units.....	168	603	2,138	1,827	2,389
Cheese.....	Kilograms.....	.7	.6	1.5	2.8	3.0

<sup>1</sup> A form of textile product.

Source: 30 vjet, p. 99.

TABLE IV-15.—BREAKDOWN OF NET MATERIAL PRODUCT BY SECTOR

[In percent]

	1938	1950	1960	1970	1973 <sup>1</sup>
Total.....	100.0	100.0	100.0	100.0	100.0
Industry.....	3.8	11.0	32.7	42.4	45.1
Agriculture.....	93.1	76.3	44.4	34.5	34.2
Construction.....	.8	4.6	10.9	10.2	7.2
Transport, trade, etc.....	2.3	8.1	12.0	12.9	13.5

<sup>1</sup> Preliminary figures.

Source: 30 vjet \* \* \*, p. 188.

TABLE IV-16.—Global industrial output, 1965-76, plans and their fulfillment

1966-70:	
P.....	50-54
A.....	83
1971-75:	
P.....	61-66
A.....	52
1976-80:	
P.....	41-44
1971:	
P.....	7.5
1972:	
P.....	12.5
1973:	
P.....	10.4
A.....	9.4
1974:	
P.....	8
A.....	7.3
1975:	
P.....	4.4
A.....	4
1976:	
P.....	4.5
1977:	
P.....	8.9

Sources: Annual Plan Reports.

TABLE IV-17.—PLANS AND THEIR FULFILLMENT FOR VARIOUS SECTORS OF ALBANIAN INDUSTRY

Industry	1966-70		1971-75		1976-80, P	1973, A <sup>1</sup>	1974		1975		1976, P	1977, P
	P	A	P	A			P	A	P	A		
(1) Oil	{ <sup>2</sup> 46	{ <sup>2</sup> 81	62-66	23	27-29	101	7					
(2) Coal	115-120	154	82-86	44	63-65	95						20
(3) Chromium	<sup>3</sup> 19-21		122-126	68	71-73	95	13	17	9	9	5	
(4) Copper	<sup>3</sup> 147-151		57-61	52	40-42	104	2					
(5) Iron-nickel			188-192		500-510	100						
(6) Electricity	130	180	104-108	73	145-150	100	16	6	5		21	
(7) Engineering	121-126	220	102-106	00	40-42	103				8		
(8) Chemical		600	124-128	46	140-145	100						
(9) Construction materials	<sup>4</sup> 39	160	100-103		50-53	100						
(10) Timber and paper	<sup>4</sup> 28		35-39		18-20							
(11) Glass and ceramics			140-144		20-23	103						
(12) Light industry	43-45	73	39-43	(34)	22-24	101						
(13) Food	20-24	32	39-43	(51)	23-25	100						
(14) Polygraphic			50-53									

<sup>1</sup> Percentage fulfillment.

<sup>2</sup> Oil extraction and processing respectively.

<sup>3</sup> Fulfilled.

<sup>4</sup> Percentage increase over previous 5-yr. period.

Source: Annual Plan Reports.

## APPENDIX I

## ESTIMATION OF MAIN NATIONAL-ACCOUNTING AGGREGATES

A. *The Publication of Albanian Statistics*

Of all East European countries, Albania publishes the smallest volume of economic statistics. It was the last member of Comecon to issue a Statistical Yearbook (in 1958), but until 1966 the abstracts bore comparison (though more modest in scope) with those published elsewhere in East Europe. From then until 1972 the volumes both become progressively smaller and were issued only biennially. No volume had appeared since that titled 1971-1972, but the latter was supplemented in certain details issued and series extended to 1973 in a publication of the General Directorate of Statistics, *30 vjet Shqipëri Socialiste* (30 Years of Socialist Albania) in 1974. It is not clear whether the practice of publishing yearbooks has ceased or merely been held up by political problems.

The methodology of statistical compilation and calculation has, on the other hand, been discussed in detail in two textbooks published by the Faculty of Economics at the University of Tirana in 1971, *Statistika ekonomike* and *Statistika e industrisë*. Four points from these books are relevant to a reconstruction of the unpublished series of net material product.

(1) 'National income, viz net material product (NMP), is defined (as elsewhere in Eastern Europe) as the difference between Global Social Product and material outlays including depreciation. As is usual in national accounting, three accounts are drawn up. "NMP produced" is established by industrial origin in enterprise-wholesale prices, viz not including turnover tax, and is computed by summation of the output of all non-farm production units at those prices and subtracting the total of expenses incurred by such units;<sup>1a</sup> net agricultural output is added from separate calculations (see (4) below) but the net contribution of trade does not incorporate the price differential on foreign trade (balance in domestic prices of the profit on imports against the loss on exports due to the overvaluation of the lek). The second account, of "NMP utilized" is the aggregate of the consumption and accumulation funds and exceeds the NMP produced by the value of the import surplus. The third account of "NMP distributed" is the summation of the wage fund for workers in the sphere of production, turnover tax, profit "in all its forms" and social security premia.

(2) The value of NMP in leks has never been published. The indices of NMP in 'comparable prices' are generally available, calculated as a Laspeyres formula (base-year prices weights)<sup>2</sup> unless otherwise stated, i.e.

$$\frac{\sum p_{1q_0} / \sum p_{0q_0}}$$

(3) Global industrial production is generally given in enterprise wholesale prices of the first year of the relevant five-year plan, since a new set of such prices is established every five years. Thus values for 1971/75 are expressed in 1971 prices, which were effectively also current prices. For the computation of the index of global production 'in comparable prices' a price index is calculated, also using a Laspeyres formula, the price index thus obtained being used to splice to the index of production for previous years expressed in the previous.<sup>3</sup> This disregards the effect of the high growth rates experienced by the Albanian economy on weighting, and it must be accepted that the index as published considerably overstates growth as it would be shown on a Paasche formula (end-year price weights).

(4) The calculation of global agricultural production is calculated as the sum of outputs of crop and of livestock production by the General Directorate of Statistics (physical outputs at average prices), thus grossing in fodder consumption of livestock.<sup>4</sup>

B. *A Reconstruction of Material Product*

As just stated, NMP is not officially published in absolute terms in any of its three accounts, but NMP produced (*e ardhura kombetare te realizur*) can be reconstructed from statements of its industrial component via its share in global social product (GSP).

<sup>1a</sup> *Statistika ekonomike*, Tirana, 1972, pp. 407-14.

<sup>2</sup> *Ibid.*, p. 148.

<sup>3</sup> *Statistika e industrisë*, Tirana, 1971, pp. 107-9.

<sup>4</sup> *Statistike ekonomike*, pp. 191-3.

Global industrial production in 1970 and 1971 prices was stated to have amounted to 7,104 mn leks<sup>5</sup> and to have represented 52 per cent of GSP,<sup>6</sup> from which a GSP of 13,662 mn leks may be inferred. As outlays including depreciation were 50 per cent of GSP,<sup>7</sup> an NMP of 6,830 mn leks may be deduced for 1970 and extended by the index of growth under the Five-year Plan to a value of 9,426 mn lek in 1975.

An approximate value of gross material product (GMP) can be reconstructed from the published share of depreciation in material outlays in industry, viz. 8.43 per cent in 1959<sup>8</sup> and 9.3 per cent in 1969.<sup>9</sup> These shares were used as if they applied to all material outlays (there being no published data on the value of the fixed capital stock, either in toto or for industry),<sup>10</sup> but it may be noted that the ratio in the Yugoslav Autonomous province of Kosovo (neighbouring Albania and inhabited principally by Albanians with broadly similar economic resources) was 9.4 per cent in 1970.<sup>11</sup> Hence, as material outlays were 6,831 mn in 1970, depreciation was 635 leks and GMP produced was 7,466 mn leks. A check on the depreciation estimate may be found in its correspondence with an estimate made by one of the authors in 1967 with respect to that year, of 620 mn leks.<sup>12</sup>

"NMP utilized" (*e ardhura kombëtare e përduror*) exceeds NMP produced by the excess of imports over exports (the balance of trade) and it is general east European practice for an import surplus to be valued at import prices. It can no longer be assumed that NMP produced includes the foreign trade price differential (*preisausgleich* in the German term, usually applied).<sup>13</sup> As no foreign trade aggregates have been released since those for 1967, it was not possible to build up an estimate from NMP produced but some indicators of the composition of the consumption and accumulation funds were available to make an attempt at reconstructing NMP utilized. Data on the percentage distribution of these funds have only been published for the average of 1966-70,<sup>14</sup> the series being wholly absent from the biennial yearbooks of the period (1967-68, 1969-70 and 1971-2). The only reference which might be interpreted as being to 1970 appeared in a book published in 1971 and was of the order of magnitude of the 1966-70 mean.<sup>15</sup>

The major constituent of personal consumption is retail sales less purchases by institutions. The 3,881 mn lk sales of 1970 were reduced by 8.5 per cent for institutional buying<sup>16</sup> to yield an estimated purchase by households of 3,550 mn leks. Auto-consumption (non-monetized consumption) of household was 30 per cent of total personal consumption,<sup>17</sup> such that it would readily be computed as 1,780 mn leks. Other household purchases were put at 10 per cent of retail sales and autoconsumption. Social consumption was 11.9 per cent of the consumption fund and was similarly computed at 706 mn leks and the consumption fund as 5,930 mn.

A check on the magnitude of the material outlays in social consumption reconstruction was made by the summation of budget expenditure in 1970 on administration (85 mn leks) on defense (475 mn leks), on education and culture (554 mn leks) and on health services (261 mn leks),<sup>18</sup> viz a total of 1,375 mn lek, of which something like half would be material outlays and half non-productive services. No Albanian indicator of the latter relationship exists, but the ratio in the Soviet Union in 1964 as calculated by Becker, is 46 to 54 per cent (see Appendix Table I). Application of the Soviet percentage to an outlay of 1,375 mn lek would give 633 mn lek for an outlay that does not include amortization changes on housing etc, (for which the residual of 70 mn leks could speculatively be suggested).

<sup>5</sup> 30 vjet *Shqipteri socialistë*, 1974, Tirana, 1974 (hereafter *30 vjet . . .*), p. 55.

<sup>6</sup> M. Shehu, Report to the 7th Party Congress (*Rruga e Partisë*, No. 12, 1976, p. 15).

<sup>7</sup> *Statistika ekonomike*, p. 422.

<sup>8</sup> *Regjimi i kursimit: metodë e drejtimit të ekonomisë socialiste*, Tirana, 1960, p. 16.

<sup>9</sup> *Financat e ndërmarrjeve industriale minerale dhe të ndërtimit*, Tirana, 1971, p. 88.

<sup>10</sup> Approximately half fixed capital would be in industry in 1970 since 47 per cent of aggregate capital expenditure 1951-68 had been in industry (*Ekonomia popullore*, 1/1970, p. 31).

<sup>11</sup> *Statistike godisnjak SFRJ*, 1976, Table 204-3 (material outlays were 2,952 mn dinars and depreciation 307 mb dinars).

<sup>12</sup> M. Kaser 'Albania' in P. Wiles (ed.) *The Prediction of Communist Economic Performance*, Cambridge, 1971, p. 93.

<sup>13</sup> M. Kaser, in P. Deane (ed.) *Studies in Social and Financial Accounting*, London, 1961, p. 162.

<sup>14</sup> *30 vjet . . .*, p. 189.

<sup>15</sup> *Statistike ekonomike, op. cit.*, p. 434 stated that social consumption was between 10 and 11 per cent of the consumption fund; *30 vjet . . .*, p. 189, put the average for 1966-70 at 11.9 per cent.

<sup>16</sup> Sales from *30 vjet . . .*, p. 178; analogous Soviet share of institutional buying from A. S. Becker, *Soviet National Income 1958-1964*, Berkeley and Los Angeles, 1969, p. 332. Becker's ratio (p. 159) was also used for 'other household purchases'.

<sup>17</sup> *Statistike ekonomike*, p. 434.

<sup>18</sup> *30 vjet . . .* pp. 190, 193.

The accumulation fund is chiefly investment. State investment in 1970 was 2,207 mn lek of which 77.5 percent was 'productive' (viz. 1,710 mn leks) and 22.5 percent 'non-productive' (497 mn leks).<sup>19</sup> Cooperative farm investment added 16.4 percent during 1966-70 and 12.1 percent during 1971-75 to compose socialist-sector investment,<sup>20</sup> and a 14 percent ratio was used for 1970, viz 310 mn leks. The value of private investment (which would have been almost all in housing) was derived from the average ratio in 1966-70 and 1971-73 of private to state housebuilding in dwelling units (62,596 against 50,222, or 1:1.25)<sup>21</sup> and state investment in housing (193 mn leks in 1970<sup>22</sup>), viz. 240 mn leks. Arbitrarily allocating some 15 per cent of cooperative-farm investment to non-productive projects (clubs, cinemas, reading-rooms, cafeterias etc.), viz 46 mn leks, fixed investment was shown to be composed of the following:

[Millions of leks at 1971 prices]

	Productive	Non-productive	Total
State.....	1,710	497	2,207
Cooperative.....	264	46	310
Private.....		240	240
Total.....	1,974	783	2,757

"Non-productive" fixed investment was 25.0 percent of all fixed investment in 1966-70;<sup>23</sup> the above estimate showed 28 percent. 'other investment' in 1966-70 bore a ratio of 29.7 per cent to all fixed investment which would show just under 820 mn leks for this outlay, which includes inventory accumulation, net increment in unfinished construction and military hardware. In the U.S.S.R. (see Appendix Table I) in 1964, 69 per cent of expenditure on defense and internal security was attributable to material outlays: were the same ratio to have ruled in Albania in 1970, 330 mn lek of the "other investment" would be attributable to military goods (of which an arbitrary 50 mn was counted as 'consumables' and the remainder as military hardware), leaving 490 mn leks as increments in stocks and uncompleted construction. The two funds were estimated and are shown in Appendix Table II. The NMP utilized (9,230 mn leks) exceeds NMP produced (6,830 mn leks) by 2,400 mn leks.

### C. NMP Deflators

Global industrial and agricultural production together have been stated in 1956 prices as 21,072 mn old leks (2,107 mn new leks) for 1950 and 62,340 mn old leks (6,234 mn new leks) for 1960<sup>24</sup> and in 1971 prices at 2,158 mn new leks and 5,230 mn new leks respectively. Hence 1956 prices (1971=100) were 98 in 1950 and 119 in 1960. The rise of 20 percent may be attributed to the increase in agricultural prices relative to industrial over 1950-60.

Global agricultural production in 1960/1 was 26,674 mn old leks (2,667 mn new leks) and global industrial production in 1960 31,970 mn old leks (3,197 mn new leks), both in 1960 prices.<sup>25</sup> Combined output was 5,864 mn new leks, showing a price index weighted by 1960 global outputs, for 1956 (1960=100) of 106 and 1960 (1971=100) of 112. Prices have thus declined as follows on 1960 weights:

1956=119  
1960=112  
1971=100

As mid-period weights form the best deflator ("inflator" on Albanian trends) this series was used for the national accounts.

<sup>19</sup> 30 vjet . . . , p. 155 (that the data referred to state investment only is evident by comparison with p. 147):

<sup>20</sup> 30 vjet . . . , p. 148.

<sup>21</sup> 30 vjet . . . , p. 156.

<sup>22</sup> By difference: 1966-70 in 1971 prices in 30 vjet . . . , p. 151 1966-69 in 1961 prices in *Vjetari statistikoi, 1969-70*, p. 81. multiplied by a price index (1961 prices being 12 per cent above 1971 prices see section C).

<sup>23</sup> 30 vjet . . . , p. 189: these data are in 1971 prices, because the identical table appears in O. Gjiriti, *Mbi mirëqenien e punonjësve të qytetit e të fshatit*, Tirana, 1973, p. 53, as in those prices.

<sup>24</sup> B. Bardhoshi, *Probleme të planifikimit dhe të zhvillimit të ekonomisë së planifikuar në RPSH*, Tirana, 1965, p. 150.

<sup>25</sup> *Ibid.*, pp. 181 and 193 respectively.

## D. SNA Account

The extension of the frontier of production to aggregates defined in the United Nations System of National Accounts (SNA) presented severe difficulties because of the sparsity of Albanian statistics on financial services, the personal service industries and the private "non-productive" sector. A considerable number of Albanians engaged in cooperative farms or state enterprises undertake a side-line occupation, despite frequent criticism in the press,<sup>26</sup> but at the valuation of such activity can only a guess can be made. Very few private professional services are permitted; all churches and mosques were closed in 1967 so that no incomes arise from religious or charitable foundations and the legal and health services operate within the socialist sector.

Subtraction of material outlays counted for NMP (700 mn leks) from government financed non-productive activities (1,375 mn leks as calculated in B above) yielded budget provision (675 mn leks) but of financial services only interest paid to depositors in the savings banks has been published. This was 6.2 mn new leks in 1970 on a mean balance due to depositors of 294.6 mn or 2.1 percent. A 2.5 percent rate of interest, conventionally taken to cover the cost of banking services, was applied to an estimate of loans outstanding to cooperative farms (computed as new loans over the previous five years, including a remarkable issue of loans to private farmers in 1966-7) viz. 303.5 mn new leks, i.e. 7.6 mn new leks. To formulate an order of magnitude, use of banking services by government and by state enterprises was assumed to be ten times private and cooperative use, making a banking service of 165 mn leks. Insurance services would have been more modest (25 mn leks were allowed) but personal services from state and cooperative enterprises were put at 200 mn leks. A very rough total of 390 mn leks was thus shown for the autonomously financed non-productive sector.

Private services were still more speculative. An estimate of Soviet GNP showed them at 1 percent of retail sales in 1964 and Albanian provision was put at the same ratio, viz 1 percent of 3,550 mn leks rounded up to 40 mn leks. Because rent (paid and imputed) would be broadly related to wages, salaries and personal farm incomes, the ratio of 2.5 per cent to retail sales for the U.S.S.R.<sup>27</sup> was applied for rent, rounded up to 90 mn leks.

A total of 1,200 mn leks for non-productive services was thus built up (rounding from the 1,195 mn shown).

TABLE I.—ANALOGOUS SOVIET DISTRIBUTION OF NONPRODUCTIVE SERVICES IN 1964

[In billions of rubles]

	Material outlays	Labour costs
Education, health, and communal services .....	5.09	13.96
Housing, transport, and other abilities serving consumption .....	3.96	8.75
Science and administration .....	1.58	1.48
Defense and internal security .....	9.97	4.51
Depreciation on housing .....	4.10	.....
<b>Total .....</b>	<b>24.70</b>	<b>28.70</b>

Source: A. S. Becker, Soviet National Income, 1958-64, Berkeley and Los Angeles, 1969, tables 25 and J-2.

TABLE II.—Reconstruction of net material product utilized in 1970

[Billions of leks at current or 1971 prices]

Consumption fund:	
Retail sales .....	3, 550
Auto consumption .....	1, 780
Other household purchases .....	590
Depreciation on housing .....	70
<b>Total personal consumption .....</b>	<b>5, 990</b>

<sup>26</sup> E.g. *Bashkimi*, April 19, 1975, p. 2 and May 24, 1975, p. 2.<sup>27</sup> Becker, *op. cit.*, Table J-2.

TABLE II.—Reconstruction of net material product utilized in 1970—Continued

[Billions of leks at current or 1971 prices]

Consumption fund—Continued		
Material outlays on administration, health, education, science, etc.	300	
Material outlays on defense and internal security	50	
Total social consumption	350	
Total consumption fund	6,340	
Accumulation fund:		
Gross fixed investment:		
State	2,207	
Cooperative	310	
Private	240	
	2,757	
Less depreciation	635	
Net fixed investment	2,120	
Net increase in inventories and unfinished construction	490	
Increment in military hardware	280	
Total	2,890	
Net material product utilized	9,230	

## APPENDIX II

## PLAN CONSTRUCTION IN THE ALBANIAN INDUSTRIAL ENTERPRISE

Parts and major indicators of the plan	Organ which draws up plan	Organ approving plan	Information needed to draw up the plan	Source of information
(I)	(II)	(III)	(IV)	(V)
<b>(1) PRODUCTION PLAN</b>				
(a) Output mix (in physical units).	Planning branch	Superior organs	Final products, goods in in process industrial services and cooperation details.	Superior organs and enterprise placing orders.
(b) Global output	do	do	(1) Output mix (2) Approval wholesale prices. (3) Plan for incomplete production and own instruments for production.	Planning branch, Superior organ. Shipment coordinator. <sup>1</sup>
(c) Cooperation plan	do	do	(1) Balance of goods in process. (2) Goods in process to be obtained through cooperation.	Material technical supply and sales branch, Technology office.
<b>(2) QUANTITY OF PRODUCTION PLAN</b>				
(a) Quantity categories of output.	do	do	(1) Physical output mix (2) Standard and technical conditions. (3) Plan for quality improving technico-organizational measures.	Planning branch, Organs of quality control. Technology office.
(b) Intervals for servicing production.	Technology office		As for quality plan	Technology office.
<b>(3) PRODUCTIVE CAPACITY PLAN</b>				
(a) Average annual capacity	Planning branch	Superior organs	(1) Data on machines productive space. (2) Investment and capital construction plan.	Chief mechanic. Chief engineer.

See footnotes at end of table.

## PLAN CONSTRUCTION IN THE ALBANIAN INDUSTRIAL ENTERPRISE—Continued

Parts and major indicators of the plan	Organ which draws up plan	Organ approving plan	Information needed to draw up the plan	Source of information
(I)	(II)	(III)	(IV)	(V)
<b>(3) PRODUCTIVE CAPACITY PLAN—Con.</b>				
(b) Machine and productive space loadings.	Planning branch.....		(1) Output mix..... (2) Unit output machine time norms and the planned utilization rate.	Planning branch work. Organization branch.
(c) Exploitation of productive capacity	.....do.....		(1) Output mix..... (2) Average annual capacity.	Planning branch. Do.
<b>(4) INVESTMENT AND CAPITAL CONSTRUCTION PLAN</b>				
(a) Volume and structure of capital investment.	Chief engineer....	Superior organs....	(1) Production plan.....  (2) Average annual capacity. (3) Projects and budgets. (4) Project prices.....	Do.  Chief mechanic. Do. Superior organs.
(b) Exploitation of new productive capacity.	.....do.....	.....do.....	(1) Production plan..... (2) Average annual capacity.	Planning branch. Do.
(c) List of projects.....	.....do.....	.....do.....	Technical projects.....	Chief mechanic.
<b>(5) LABOUR AND WAGES PLAN</b>				
(a) Group of labour productivity.	Work organization branch.....	.....do.....	(1) Plan for technico-organizational measures to increase production. (2) Norms for labour time per unit output. (3) Plan for revision of norms. (4) Number of workers according to skill categories.	Work organization branch. Do. Do. Do.
(b) Planned number of workers.	.....do.....	.....do.....	(1) Output mix..... (2) Planned incomplete production. (3) Balance of workers' useful work time for the year. (4) Planned percentage realization of work norm.	Planning branch. Do. Work organization branch. Do.
(c) Supplementary work force plan.	.....do.....	.....do.....	(1) Anticipated level of work force at the end of the last year. (2) Work force plan for the coming year. (3) Planned flow of work force during coming year. (4) Sources of supplementary work force.	Do. Do. Do. Superior organs.
(d) Planned number of other categories of workers.	.....do.....	.....do.....	(1) Organized recruitment. (2) Plan of technico-organizational measures for the minimal use of these categories of workers.	Do. Work organization branch.
(e) Training of new workers and increase in skill category of existing workers.	Organization branch.....	.....do.....	(1) Supplementary work force plan. (2) Planned number of workers by shift category. (3) Training period of workers.	Do. Do. Do.
(f) Wage fund.....	Work organization branch.....	Superior organs....	(1) Work force by skill category and professions. (2) Workers wage rates for management. (3) Organized recruitment. (4) Tables of wages for management.	Do. Superior organs. Do. Do.

See footnotes at end of table.

## PLAN CONSTRUCTION IN THE ALBANIAN INDUSTRIAL ENTERPRISE—Continued

Parts and major indicators of the plan	Organ which draws up plan	Organ approving plan	Information needed to draw up the plan	Source of information
(I)	(II)	(III)	(IV)	(V)
<b>(5) LABOUR AND WAGES PLAN—Con.</b>				
(f) Wage fund—Con.	Wage organization branch.	Superior organs.	(5) Norms for labour time per unit output and their planned percentage realization. (6) Balance of workers' useful time for the year.	Work organization branch. Do.
(g) Average wages.	do.	do.	(1) Wage fund (planned). (2) Planned number of workers by skill category. (3) Planned percentage increase in labour productivity. (4) Percentage of increase in labour productivity to be secured by direct merit of workers.	Do. Do. Do. Do.
<b>(6) MATERIAL TECHNICAL SUPPLY AND SALE OF OUTPUT</b>				
(a) Input requirements (excluding electricity).	Supply branch.	do.	(1) Output mix. (2) Planned goods in process. (3) Norms for unit output raw material requirements. (4) Supporting department plan. (5) Investment and capital construction plan. (6) Input prices. (7) Plan of measures for the rational use of inputs.	Planning branch. Do. Technology office. Chief mechanic and chief technician for energy. Chief mechanic. Superior organs. Technology office and supply branch.
(b) Electrical energy requirements.	Chief technician for energy.	do.	(1) Planned volume of production. (2) Norms for energy requirements per unit output. (3) Work plan of departments and their regime of work.	Planning branch. Chief technician for energy. Planning branch.
(c) Sales plan.	Superior branch.	Superior organs.	(1) Output mix. (2) Output prices. (3) Unsold output and goods in process.	Do. Superior organs. Supply branch.
<b>(7) COST PLAN</b>				
(a) Cost plan.	Planning branch.	do.	(1) Norms of input requirements per unit output. (2) Input prices. (3) Wages per unit output. (4) Budget of departmental enterprise expenses.	Technology office. Superior organs. Work organization branch. Planning branch.
(b) Budget of production expenses.	Planning branch.	do.	(1) Production plan in money terms. (2) Material technical supply plan in money terms. (3) Wage fund. (4) Depreciation charges. (5) Budget of other expenses.	Do. Do. Work organization branch. Planning branch. Do.
(c) Absolute and percentage cost reduction plan.	do.	Superior organs.	(1) Output mix. (2) Actual cost of products in the base yr. (3) Plan of technico-organizational measures for cost reduction. (4) Economic outcome of carrying out the measures for cost reduction.	Do. Do. Management. Planning branch.

## PLAN CONSTRUCTION IN THE ALBANIAN INDUSTRIAL ENTERPRISE—Continued

Parts and major indicators of the plan (I)	Organ which draws up plan (II)	Organ approving plan (III)	Information needed to draw up the plan (IV)	Source of information (V)
<b>(8) TECHNICAL DEVELOPMENT PLAN</b>				
(a) Plan for new products and the perfection of existing products.	Technology office.	Superior organs.	(1) List of new products and old ones requiring improvement. (2) Construction plan for new products. (3) Technological plan for new products. (4) Organizational and input plan for new products. (5) Unit cost of new products.	Planning branch and technology office. Technology office. Do. Do. Planning branch.
(b) Research and development plan.	Technology office in conjunction with management.	-----	(1) Plan of new production techniques. (2) Plan of ideological and technico-organizational measures for the exploitation of internal reserves.	Technology office. Management.
(c) Plan of technico-organizational measures for the exploitation of internal reserves.	Management.	Enterprise.	(1) Plan of ideological and technico-organizational measures for departments. (2) Economic efficiency secured by carrying out measures. (3) Overall plan of measures for the enterprise.	Departments. Management. Planning branch.
<b>(9) FINANCIAL PLAN</b>				
(a) Balance of income and expenses.	Accounting branch.	Superior organs.	All other indicators of the financial plan.	
(b) Profit plan.	do.	do.	(1) Production plan. (2) Sales plan. (3) Wholesale prices. (4) Turnover tax rates. (5) Percentage retail markups.	Planning branch. Supply branch. Superior organs. Do. Do.
(c) Plan of working capital norms.	do.	do.	(1) Production plan. (2) Input requirements norms. (3) Input prices. (4) Prices of finished products and goods in process. (5) Cost of production. (6) Schedules of production cycles.	Planning branch. Technology office. Superior organs. Do. Planning branch. Do.
(d) Sources of finance for working capital.	do.	do.	(1) Wage fund. (2) Planned expenses for electrical energy. (3) Profit. (4) Sources from other enterprises. (5) Budgeting finance.	Work organization branch. Chief technician for energy. Accounting branch. Superior organs. Do.
(e) Plan for finance of investments and large undertakings.	do.	do.	(1) Average annual fixed capital situation. (2) Depreciation norms.	Chief mechanic. Superior organs.
(f) Sources of finance for investment and large undertakings.	do.	do.	(1) Depreciation fund for investments and large undertakings. (2) Profit. (3) Budget. (4) Bank credit.	Do. Do. Do. Do.
(g) Depreciation fund plan.	do.	do.	(1) Average annual value of fixed capital. (2) Depreciation norms.	Do. Do.
(h) Turnover tax plan.	do.	do.	Same date as for profit plan.	

<sup>1</sup> This is an approximate translation of the Soviet dispatcher.

<sup>2</sup> This is a tentative translation of organikat on the analogy of the Soviet orgnabor.

Source: P. Xhuvani et. al., Organizimi, planifikimi i veprimtorisë ekonomiko-prodhuese të ndërmarrjeve industriale, Tirana, 1973, pp. 229-45.

# THE BULGARIAN ECONOMY IN THE 1970'S

BY MARK ALLEN

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### 1. INTRODUCTION

The growth rate of Bulgarian production, while remaining high by the standards of both Eastern and Western Europe, has been gradually declining over the last decade. This is attributable partly to lower agricultural growth rates and partly to the difficulties inherent in moving from an extensive to an intensive growth path. Bulgaria has found it difficult to raise labour productivity fast enough and to absorb new technology. The high accumulation rate has kept the capital stock growing rapidly, but the productivity of this capital has been falling.

While production has been growing slower than hoped for, consumption, especially in the period 1971-5, has grown faster than planned. This followed the launching of a program in December 1972 to raise the standard of living. The unplanned and widening gap between production and consumption has been bridged by credits from Western capital markets. In the second half of the 1970's, the main problem facing the authorities is how to restore balance in the economy. The July 1976 Central Committee Plenum of the Bulgarian Communist Party may represent a turning point in these efforts. A regime of strict economy was launched and numbers of administrative personnel reduced. Production is planned to rise faster than consumption for the rest of the decade.

The slow growth rate of agricultural production in the years since 1966-7 presents a marked contrast to the successes of this sector in the early 1960's. It is of concern to the authorities for two main reasons: agricultural production's crucial roles in raising the standard of living and in foreign trade. Bulgaria is increasingly short of fuel and mineral resources. An expansion of agricultural exports would give it the means to pay for its raw materials and the freedom to choose between alternative suppliers of machinery and manufactures. The

stagnation of agricultural exports means that necessary imports must be financed increasingly by sales of Bulgarian machinery and manufactures, which can generally only be sold within the CMEA, and in particular in the USSR. Thus Bulgaria's political ties with the USSR are matched by an increasing economic dependence.

In the face of their economic problems, the Bulgarian authorities have displayed considerable imagination in seeking solutions. In general, they have sought organizational changes rather than systemic reform. In industry, they have experimented with a variety of forms of combining enterprises, culminating in the most recent remarkable attempt to reorganize the economy on the basis of national economic complexes. Experiments in vertical and horizontal integration in agriculture seem more soundly based in practical experience. The success of some of the organizational forms pioneered can be seen from their adoption by a number of other socialist countries. The approach to agriculture seems relatively undogmatic and the good harvests of 1975 and 1976 may indicate that it has been successful in restoring growth rates.

## 2. THE SOURCES OF GROWTH

Table 1 shows the contribution of various factors of production to growth in the non-agricultural sectors of material production in post-war Bulgaria. It represents an attempt to sort out the influences of intensive and extensive factors over this period. Before analyzing the results, it is appropriate to describe the methodology of the table.

TABLE 1.—SOURCES OF GROWTH OF NET MATERIAL PRODUCT

[In percent]

5-yr plan	1st, 1948-52	2d, 1953-57	3d, 1958-60	4th (1), 1960-65	4th (2), 1960-65	5th, 1966-70	6th, 1971-74
Growth from:							
Labour force.....	59.9	53.9	67.5	43.6	48.3	30.0	32.3
Reallocation of labour.....	34.1	3.1	.5	6.8	9.0	-1.1	5.8
Labour productivity.....	6.0	43.0	32.0	49.7	42.7	71.1	61.9
Capital stock.....		79.1	44.7	115.0	127.5	99.5	132.7
Reallocation of capital.....		46.8	16.1	47.6	56.8	16.9	13.4
Capital productivity.....		-25.9	39.2	-62.6	-84.3	-16.4	-46.0
Material inputs.....	102.7	120.5	103.0	120.4	133.4	82.5	106.2
Reallocation of materials.....	-25.8	.2	-7.3	7.9	1.2	-1.4	.9
Material productivity.....	23.1	-20.7	4.4	-28.4	-34.6	18.9	-7.2
Capital broadening.....		68.2	151.1	37.9	37.9	30.1	27.2
Reallocation of capital.....		52.9	-26.7	-11.7	-11.7	.3	.4
Capital deepening.....		-21.0	-24.4	73.8	73.8	69.6	72.4
Annual growth rate of:							
Labour productivity.....	1.2	4.6	5.4	4.6	4.0	9.3	4.7
Capital productivity.....		-3.2	6.5	-7.4	-10.6	-2.6	-4.0
Material productivity.....	4.2	-2.5	.8	-3.1	-3.8	2.7	-6

Sources: The data in this table are based on an unpublished official Bulgarian source, except for the 6th-plan period which came from Statisticheski Godishniki, 1971 and 1975. The methodology of the table is described in the text. Net Material Product is defined to exclude the agricultural and forestry sectors, since production in these sectors is strongly influenced by the productivity of land and by the weather in any given year. Growth of net material product is measured in 1957 prices for the first three-plan periods. For the 4th period it is measured in both 1957 prices and 1962 prices, while for the 5th and 6th plans 1962 prices are used. For the first five-plan periods changes in labor inputs are measured in terms of people occupied (zaeti litsa) while for the 6th period workers and employees are used. Capital inputs are measured in terms of productive fixed capital (osnovni fondove) at full initial cost. Material inputs are measured as the difference between social product and net material product in each sector. The prices used are those used for net material product as described above. Calculations are based on 6 sectors of material production: industry, construction, transport, communications, trade, and other. For the 1st-plan period, and for all calculations of material productivity, the transport and communications sectors were lumped together.

Extensive growth is defined here as growth due to the increased application of some factor of production without any variation in the average productivity of that factor. Intensive growth is that due to increased productivity of some factor. The first part of the table treats the extensive and intensive contributions of labour to the growth process. In each of the plan periods, the actual growth in constant prices of net material product is compared to the increase in the total labour force in all sectors under consideration. Thus, for example, between the years 1970 and 1974, the growth in the labour force employed in the non-agricultural sectors of material production was 32.3% of the growth of net material product in those sectors. During this period, however, the rate of growth in the labour force was not equal in all sectors. In some periods the labour force grew relatively faster in those sectors with high average labour productivity and in others it grew faster in those with low productivity. The second step of the calculation was to calculate the increase in net material product due to reallocating labour among the various sectors while retaining the average productivity of those sectors at the start of the period. Thus in the period 1970 to 1974, the concentration of labour in the more productive sectors<sup>1</sup> contributed to 5.8 percent of the growth of net material product. The residual growth is attributed to labour productivity.

Similar calculations for capital and material productivity are also presented in table 1. The capital stock in each period is considered to be the stock of basic production funds evaluated at full initial cost. Even in the absence of significant inflation in the costs of construction, this method probably overstates the increase in capital stock during a given period since it does not take into account the depreciation of the stock. Material inputs are calculated as the difference between social product and net material product in the given year. Social product is the sum of the gross output of all enterprises and economic organizations.<sup>2</sup> However, there has been a considerable amount of merging of enterprises<sup>3</sup> (the total number of industrial enterprises fell from 2305 in 1952 to 2261 in 1968, even after massive industrialization) and, in the last ten years, of redefinition of economic organizations. This may have had an impact on the volume of social product. If this has happened, it will have resulted in an overestimation of improvements in material productivity.

One final caveat relates to the use of official growth indexes of national income. Since factor productivity in these calculations is arrived at as a residual, an overestimation of growth rates of national income will have a magnified effect in overestimating the contribution of factor productivity. This problem is, however, probably not too severe in the estimates of Table 1. Much of the difference between official estimates and western reestimates of Bulgarian national income can be traced to differing weights for agriculture. Agriculture is excluded in the calculations of Table 1. As far as industrial growth rates are concerned, the most significant overestimations in the official

<sup>1</sup> Table 1 shows the result of reallocating labour among six sectors of material production. Calculation based on twenty-one sectors (i.e. with industry divided into sixteen sectors) did not significantly alter the contribution of reallocation to growth.

<sup>2</sup> See "Statisticheski Godishnik," 1975, p. 109.

<sup>3</sup> B. Ilev, "Stopanskata smetka na durzhavnite stopanski obedinenia," Sofia, 1972 p. 33.

data refer to the 1950's; in the 1960's there is considerable agreement between the statistics.

The clearest result from Table 1 is that there has been a gradual shift from the extensive to the intensive application of labour. The contribution of labour productivity to growth has been rising over the period, although the growth rate of labour productivity has remained at about 5 percent since 1952. At the same time the productivity of capital has been in steady decline, except for the Third Five Year Plan period (1958-60). This was the period of the Great Leap Forward and the Table shows clearly its peculiar nature. Being a period of mass mobilization, the contribution of the increase in the labour force to growth rose while the contribution of labour productivity fell. At the same time, the additional inputs of labour allowed both capital and material inputs to be used more effectively and their productivity rose. The effects of the Great Leap on national income growth were so marked, that despite the increased mobilization of labour, the absolute rise in labour productivity was higher in this period than in either the preceding or succeeding plans. This phenomenon, however, may be illusory, in the sense that if labour inputs were calculated in terms of man-hours rather than persons employed, productivity may have declined.

The long-term declining trend in capital productivity may be compared to the shares of capital going to capital deepening and capital broadening.<sup>4</sup> From the start of the 1960's about 70 percent of the increase in the capital stock has been devoted to increasing the amount of capital per person employed. The data seem to imply that capital deepening is proceeding too fast in Bulgaria. It is possible that there is significant overinvestment and that the marginal productivity of investment is very small or even negative. The problem may be that the workforce is not capable of assimilating higher levels of technology at such a rate.

The table shows how the remarkable performance of the Great Leap Forward was followed by a worsening of all indicators in the Fourth Five Year Plan period (1961-65). This may be related to the stresses caused by the Great Leap itself and also to the decreased effectiveness of the traditional instruments of central planning. By 1965, changes were introduced in the system of economic management which led to sharply improved labour, capital and material productivity in the course of the Fifth Plan period (1966-70). Observers questioned the need for an economic reform in Bulgaria in the mid 1960's on the grounds that an economy so underdeveloped could still achieve high growth rates under the traditional central planning system.<sup>5</sup> The analysis here, however, implies that in the early 1960's Bulgaria was having serious problems in maintaining growth and that the reforms of the mid-1960's were a considerable success.

Unfortunately, the gains of the Fifth Five Year Plan period do not appear to have persisted into the 1970's. The growth rates of all indicators are lower in the period 1970 to 1974 than in previous years. The increase in labour productivity is down on the 1966-70 period but remains respectable at 4.7 percent a year. However, the declining productivity of the capital stock must be a cause for concern. While

<sup>4</sup> Capital broadening is defined as equipping a larger labour force with capital at the same capital-labour ratio. Capital deepening is the increase in the average capital-labour ratio. Table 1 also contains an item for the reallocation of capital towards those sectors with higher capital-labour ratios.

<sup>5</sup> See, for example, J. F. Brown, "Bulgaria under Communist Rule," New York, 1970 p. 160-1.

campaigns in the 1970's have been centered on the concept of "social labour productivity," many of the specific programs and actions have aimed directly at raising capital and material productivity.

### 3. ECONOMIC STRATEGY: THE SIXTH AND SEVENTH FIVE YEAR PLAN

Bulgaria's Sixth Five Year Plan (1971-5) aimed at further intensive economic growth.<sup>6</sup> This involved an emphasis on the concentration and specialization of production, an increased share of investment for the reconstruction and modernization of existing installations and an increase in labor productivity. In December 1972, a program for raising the standard of living was launched which became a major determinant of economic strategy. The Five Year Plan's emphasis on labour productivity was heightened with the March 1974 National Party Conference which dealt mainly with this subject. Another goal of the Sixth Plan was the most efficient use of raw and semi-processed materials in short supply. The Plan placed a broader emphasis on local raw materials and the utilization of all components of ores and deposits.

The late 1960's and early 1970's were characterized by a belief that modern technology was the key to solving Bulgaria's economic problems. It was maintained that the application of computers could raise productivity and coordinate supplies and production efficiently. Thus, in the Sixth Plan stress was laid on the introduction of Automated Management Systems, the establishment of okrüg (county) computing centers and even computing centres on the Agro-Industrial Complexes. This approach was described by one observer as "computopia". A similar emphasis was laid on the rapid integration of new technology into production. Research institutes were intended to concentrate on applying foreign discoveries to production processes and enterprises to mastering new processes rapidly.

Industries singled out for special attention in the Sixth Five Year Plan were oil refining, ferrous metallurgy, chemicals and rubber, building materials and machine building. Emphasis on oil refining and petrochemicals appears in retrospect to have been a mistake. Bulgaria possesses little domestic oil and natural gas and must import its requirements from the USSR. While the increase in the price of oil could not have been forecast, perhaps the emergence of excess world capacity in the petrochemical sector could have been. Stress on the production of building materials was intended to ease some of the supply problems of the building industry. The machine building sector in Bulgaria caters largely to the CMEA market. Bulgaria is possibly the strongest adherent within the CMEA of the system of specialization agreements. This form of planned complementarity has allowed Bulgaria to create a large export-oriented machine building industry which it would otherwise have found prohibitively difficult. The development of ferrous metallurgy is seen as the basis for the machine building sector and as an important input to the construction sector.

In the construction sector, the Sixth Plan aimed at the introduction of industrial methods. The increased use of prefabricated units would

<sup>6</sup> T. Zhivkov, "Otecheten doklad na TsK na BKP pred desetitia kongres na partiata," Sofia 1971.

allow the productivity of construction workers to be raised. This would serve to "overcome the discrepancy between the volume of construction and the capacity of the construction industry"<sup>7</sup> which had led during the Fifth Plan period to a sharp increase in the volume of unfinished construction. The Sixth Plan also aimed at improving the coordination between investors, constructors and suppliers. In this respect it was intended to make the construction enterprise responsible for the quality of work performed and the prompt commissioning of the project.

The structure of capital investment is one of the clearest indicators of the priorities of the authorities. Table 2 shows how this structure of capital investment has varied with time. In 1960, Bulgaria was still engaged in the Great Leap Forward and this is reflected in the structure of that year's investment. Most noteworthy is the extremely high share of investment in agriculture that characterized this period. Investment in agriculture remained at about its 1960 level throughout the 1960's, but its percentage share fell as total investment grew. The data for 1965 show how much of the incremental investment during the Fourth Five Year Plan (1961-5) was channelled into industry. Between 1965 and 1970, there was little change in structure except a further stagnation in investment in agriculture and an increase in the share of transport. During the 1970's, the share of industry in total investment has declined. The sectors to benefit from this decline are construction, where efforts have been made to increase mechanization in order to overcome the industry's chronic inefficiency, agriculture, to revive the growth in output that halted in 1966-7, and transport and communications. The share of non-productive investment in the total has also risen from 23.8 percent in 1970 to 24.8 percent in 1974.

TABLE 2.—THE STRUCTURE OF CAPITAL INVESTMENT

	[In percent]						
	1960	1965	1970	1971	1972	1973	1974
Total.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Industry.....	34.2	44.8	45.2	43.9	41.0	41.6	38.8
Construction.....	1.6	2.7	2.9	3.4	3.6	4.2	3.8
Agriculture.....	27.9	18.8	14.9	15.2	15.5	15.0	16.3
Forestry.....	1.8	.9	.9	.9	.7	.6	.5
Transport.....	5.4	6.1	7.8	8.4	10.0	9.4	11.5
Communications.....	.4	.6	.9	.9	1.2	1.2	1.3
Trade.....	2.2	3.1	3.5	2.9	3.0	2.8	2.9
Other material production.....	.1	0	.1	0	0	0	.1
Housing and communal.....	19.2	16.9	15.8	15.6	15.5	16.5	15.5
Other nonproductive services.....	7.2	6.1	8.0	8.8	9.5	8.7	9.3

Source: Statisticheski Godishniki, 1973 and 1975.

Table 3 shows the structure of investment in industry. In the 1970's, the most important branch of industry is the machine-building and metal-working branch. This has accounted for about 20 percent of all investment in industry. The second branch in importance is the chemical industry. The actual share of this branch fluctuates from year to year as large projects are inaugurated. After the chemical industry comes power generation followed by the food industry. This last industry received large investments in the Great Leap Forward,

<sup>7</sup> U.S. Department of Commerce, "Overseas Business Reports," OBR74-14, "Summary of the Sixth Bulgarian Five-Year Plan, 1971-5", June 1974.

but its importance has gradually declined. Two sectors which have gained in importance during the 1970's are the building material industry and the forage industry (which is under the rubric "other").

TABLE 3.—THE STRUCTURE OF CAPITAL INVESTMENT IN INDUSTRY

[In percent]

	1960	1965	1970	1971	1972	1973	1974
Total.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Electricity production.....	14.3	15.8	12.8	14.9	16.5	15.2	14.4
Fuel.....	15.5	12.9	8.5	7.8	6.4	5.5	6.7
Ferrous metallurgy.....	6.4	15.1	4.3	5.0	6.4	7.5	6.6
Machine building and metalworking.....	10.3	12.2	19.8	17.4	18.0	18.7	22.8
Chemicals.....	4.2	8.4	14.6	22.6	16.2	18.5	12.7
Rubber.....	1.1	.6	1.4	.6	.4	.4	.9
Building materials.....	5.9	3.8	3.9	3.8	6.8	8.9	6.7
Lumber and woodworking.....	3.3	2.7	3.3	1.9	2.0	1.8	1.9
Paper.....	1.0	1.7	2.3	4.9	3.4	2.5	1.4
Glass and porcelain.....	2.1	1.6	1.2	1.2	1.9	1.7	2.1
Textiles.....	6.2	4.1	5.8	3.5	3.7	2.8	4.1
Clothing.....	.4	.3	.6	.7	.8	.8	.5
Leather and furs.....	.5	.6	.9	.5	.4	.4	.4
Printing.....	.5	.2	.9	.3	.4	.7	.7
Food.....	13.2	8.0	9.8	6.9	8.4	7.4	9.0
Other.....	3.1	2.5	3.4	2.1	3.0	7.1	9.2

Source: Statisticheski Godishniki, 1973 and 1975.

In presenting the Seventh Five Year Plan, a number of criticisms of the fulfillment of the Sixth Plan were made.<sup>8</sup> Apart from the failure of some sectors to fulfill output targets, insufficient attention was paid by some ministries and State Economic Associations to raising productivity, reducing material expenditures and improving the quality of production. A considerable expansion of the volume of construction had been allowed to occur and many important projects had not been commissioned on time. Serious shortcomings were reported in the supply of goods and services to the population and the housing shortage remained acute. It was also reported that "in certain places narrow-minded bureaucratic methods and parochial trends in resolving problems were manifested".

The basic tasks of the Seventh Five Year Plan (1976-80) remain similar to those of the Sixth. However, among the various targets there have been some shifts of emphasis. The main direction remains the "intensification of economic growth". This is to be achieved by the rapid introduction of the achievements of science and technology, the modernization and reorganization of the economy, rapid growth in productivity and efficiency and improved quality. Raising the standard of living also retains its priority.

The Plan states some general principles about the sectors to be developed. Most rapid growth is to take place in those sectors with good long-term prospects. Efforts will be made to utilize existing production capacities fully, to concentrate and specialize production, modernize and reconstruct existing installations and build large and efficient new production capacities. The authorities will try to concentrate production in units of optimal capacity specializing in the production of assemblies and components. The Plan calls for preference to be given to the production of goods needing relatively small quantities of raw and other materials, power, labour inputs and capital

<sup>8</sup> See Rabotnichesko Delo, February 23, 1976.

investment. It is not clear how this instruction can be applied literally, but its aim and connection with the regime of savings is clear.

The Seventh Plan provides for capital investment of 30.7 billion leva, compared to about 21 billion in the previous five years. It is intended that new factories will only be constructed when it is impossible to reconstruct, modernize or expand existing ones. 53.0 percent of capital investment is scheduled for reconstruction and modernization, 15.3 percent for expansion of existing plants and 31.7 percent for new construction. The share for reconstruction and modernization is sharply higher than the 35 percent scheduled in the Sixth Plan. This target was, however, considerably underfulfilled.

At the National Party Conference of March 1974, Zhivkov pointed out that Bulgaria was producing too many things, a little of each.<sup>9</sup> A decisive cut in the number of products was essential. This reduction will be carried out in step with bilateral and multilateral CMEA programs. The Plan envisages an intensified exchange of manufactured consumer goods, with imported consumer goods rising from about 7 percent of domestic consumption (1972) to about 20 percent in 1980. Bulgaria will also concentrate on the production of components for assembly in other socialist countries (primarily the USSR) and this should be facilitated by increased plan coordination. By 1980, 30 percent of exports to the USSR are expected to consist of such specialised production.

During the Seventh Plan period, enterprises will normally be expected to meet their increased production targets using the same amount of labour or less. A number of techniques will be applied to raise labour productivity. Soviet methods for the "scientific organization of labour" will be applied, changes will be made in labour norms and studies will be undertaken to utilize working time more efficiently. The authorities hope to reduce labour turnover, diminish the numbers of administrative personnel and attract pensioners, students and housewives into the labour force. Changes will also be made in the wage system. These will be designed to stimulate an improvement in the quality of labour supplied, and to increase the role of the basic wage in total remuneration.

Efforts to save material inputs will be pursued and the Plan provides for a reduction in the average turnover period of working capital by about ten days. Stricter observance of norms for the consumption of materials will be promoted. Stockpiling reserves above the normal level will be prohibited, but in practice, this may depend on improvements in the supply system. It is hoped to reduce production costs by 10 to 12 percent during the Plan period. This target compares with reductions scheduled in the Sixth Plan of 7.1 percent for industry, 5 percent for State Farms and 3.9 percent for transport. Bulgaria will participate in the joint exploitation of raw materials in other socialist countries in order to secure supplies. To ensure better use of the existing capital stock, plants will normally be expected to operate for six or seven days a week while the labour force enjoys a five day week. The shiftwork factor is expected to rise by 10 percent.

Real income in the 1976-80 period is to rise by about 4 percent a year. This is lower than in the previous five years, when the rate was 5.8 percent, and in the Eighth and Ninth Plan periods the rate is

<sup>9</sup> Radio Free Europe Research (hereafter RFER), Situation Report No. 8 of July 15, 1974.

expected to be 4.5 to 6 percent.<sup>10</sup> The achievement of "scientific norms for consumption" has been postponed beyond 1980. Efforts will be made to improve the structure of the supply of consumer goods after some serious deficiencies during the Sixth Plan. The Plan states that the raising of the standard of living is not only a social question but should also serve to increase productivity and economic efficiency.

The development of industrial branches producing mass consumer goods is to be accelerated and thus the growth rates of groups A and B are to be brought closer together. Industrial production is planned to increase by 55 percent and efforts are to be made to improve the quality of production. The latter may be increasingly necessary as Bulgarian enterprises supply more components for the industries of other socialist countries. If the Bulgarian authorities intend such production to become a major source of growth, it will become important that Bulgarian products establish a reasonable quality record.<sup>11</sup> Within industrial production, the shares of machine building, electronics, metallurgy, chemicals and electric power are expected to rise.

Machine building output is expected to double. This sector's share in total exports rose from 29 percent in 1970 to 41 percent in 1975 and is expected to reach 50 percent in 1980. Within the CMEA, Bulgaria specializes in the production of factory handling and lifting gear (produced by SEA "Balkankar") and certain kind of agricultural machinery. In addition, bilateral specialization agreements with the USSR account for the production of motor vehicle components, telephone equipment, electronics and other products. In the Seventh Plan period, production of heavy trucks, buses, tractors and ships is to be expanded. Particular attention will be paid to producing that agricultural machinery needed to resolve some of Bulgaria's own agricultural problems. Thus, emphasis has been placed on equipment for fodder processing, technological systems for the industrial cultivation of tobacco, vegetables, grapes, and fruits, and small-scale equipment for private plots.

After the difficulties with the raw material base during the Sixth Five Year Plan, particular efforts in this sector are to be made in the Seventh Plan period. Electric power production will rise by 50 percent compared with 30 percent in the previous five years. By 1980, 20 percent of all electric power should come from atomic power stations. Bulgaria's connections with the CMEA power grid will be expanded. Coal production is to rise at an accelerated rate and more use be made of secondary power sources within industry. There will be an intensified search for offshore oil and gas.

The country's two ferrous metallurgy bases, the "Lenin" and "Kremikovtsi" plants, are both to be reconstructed and modernized by 1980. The "Lenin" plant dates back to the early 1950's and the "Kremikovtsi" plant to the early 1960's. Preparations will also be made for a "third metallurgical base". This will be located on the coast where it can be supplied cheaply with imported fuel and ore. This is in contrast to the situation at Kremikovtsi where the local fuel and ore deposits proved poor and the transport costs for imported inputs are very high. The production of the chemical industry is to rise by 80

<sup>10</sup> RFER, Background Report No. 59 of March 11, 1976.

<sup>11</sup> Complaints from the USSR about the quality of some Bulgarian products were mentioned by Zhivkov at the National Party Conference. See RFER, Background Report No. 8 of July 15, 1974.

percent. Emphasis will be on production of fertilizers, polymers, synthetic fibers and rubber. The microbiological industry is to be developed to solve the problem of a lack of protein for livestock breeding.

The system of economic management has been undergoing a certain recentralization in the 1970's. This process will probably continue in the second half of the decade. The Plan calls for an enhancement of the role of central planning. National economic complexes and industrial branches will be expected to work on the basis of full cost accounting. Another target is an improvement in the system of material supply. This is essential if surplus stockpiling by enterprises is to be reduced. However, it has proven elusive in the past. One improvement that has been suggested is the increased use of supply from catalogs rather than on the basis of the supply plan.

Agricultural production is expected to rise by 20 percent and labour productivity by 40 percent. Investment in the National Agro-Industrial Complex will come to 5.7 billion leva or 18.6 percent of all capital investment (this compares to a share of 18.8 percent for agriculture and the food industry alone in 1971-4). After the severe drought of 1974, renewed attention is to be paid to irrigation. A further 200,000 has. are to be irrigated and irrigation systems on a similar area to be modernized and reconstructed. The major thrust of agricultural policy is to be increased livestock breeding. Numbers of animals are to increase, especially cows. This will need a strengthening of the fodder base. Private plots are to receive additional encouragement and support as a reserve for increased agricultural production and especially livestock production.

#### 4. NATIONAL INCOME

Despite impressive growth rates since the Second World War, Bulgaria remains one of the poorest countries of Europe. The 1975 World Bank Atlas shows GNP per capita in current dollars rising from \$1,450 in 1972 to \$1,590 in 1973 and \$1,770 in 1974.<sup>12</sup> The figures place Bulgaria rather ahead of Portugal and behind Spain and Greece in a ranking of European countries. Other, more conscientious, estimates by Alton show GNP per capita in terms of 1972 dollars rising from \$1,404 in 1970 to \$1,662 in 1975.<sup>13</sup> This last figure is equivalent to a 1975 per capita income of \$2,116 in 1975 dollars.<sup>14</sup> In a ranking of East European CMEA member countries, this places Bulgaria at the bottom. Alton's figures show Bulgaria slipping behind Romania over the 1970-75 period as a consequence of the remarkable growth rates in the latter country.

Measures of national income for East European countries are notoriously subject to error. This is a result of well-known problems of basic data, irrational price systems and exchange rates, and inadequate information about the methodology underlying official estimates. These problems are compounded when examining the growth of national income, since in an economy undergoing rapid structural transformation, a change in the weighting of sectors may have a marked effect on aggregate growth rates. This caveat should be born in mind in the subsequent discussion.

<sup>12</sup> World Bank Atlas, Washington, D.C. 1975 p. 29.

<sup>13</sup> T. P. Alton and Associates: "Economic Growth in Eastern Europe, 1965-75" and revisions, I.W. International, New York, 1976.

<sup>14</sup> Using the implicit U.S. GNP deflator.

The official Bulgarian index for national income is shown in Table 4. It shows the growth rate of net material product picking up from an annual rate of 6.7 percent in the Fourth Five Year Plan period (1961-65) to a rate of 8.7 percent in the Fifth Plan period (1966-70). In the years 1971-5 the growth rate declines to 7.8 percent a year. In 1976 the reported growth rate was 7 percent. Alton's recalculated index is shown in Table 5. His project records a faster growth rate of 6.9 percent in the Fourth Plan period<sup>15</sup> with a decline to 5.2 percent in 1965-70 and to 4.7 percent in the Sixth Five Year Plan. He shows a 4.6 percent growth in 1976.

TABLE 4.—NET NATIONAL PRODUCT (PRODUCED)

[In millions of leva, current prices]

Year	Total	Index (1965= 100)	Industry	Agri- culture	Forestry	Con- struction	Trans- port and commu- nications	Trade	Other
1960.....	4,488.8	72.3	2,046.2	1,415.6	29.4	315.9	189.9	392.6	99.2
1965.....	6,635.6	100.0	2,985.6	2,156.2	62.1	487.0	295.1	514.0	135.6
1970.....	10,527.4	151.9	5,167.5	2,309.9	69.0	917.2	730.3	1,040.3	293.2
1971a.....	11,199.6	162.4	{ 5,636.2	2,264.0	71.0	955.5	804.3	1,123.7	344.9
1971b.....	10,411.4								
1972.....	11,241.7	174.9	5,704.2	2,568.7	72.2	993.4	828.3	729.3	345.6
1973.....	12,147.5	189.1	6,216.8	2,651.1	73.8	1,101.4	922.9	839.2	342.3
1974.....	13,092.6	203.5	6,853.9	2,627.7	77.7	1,171.2	1,065.6	951.3	345.1
1975.....	14,289.0	221.4	7,291.0		3,142.0	1,257.0	1,172.0	1,120.0	307.0
1976.....	15,289.0								

Note: Between 1970 and 1971, national income was reported to have grown by 7.1 percent i.e. to about 122,275 million leva. However, certain changes in the definition of national income were made in 1971 and new prices came into effect. Row 1971a is calculated from unpublished official Bulgaria data and shows 1971 national income using 1970 coverage of national income and 1970 prices. Data for transport and communications in 1960 and 1965 include only that part connected with material production. In later years the full output of the sector is included.

Source: 1960-70, 1971b-4 Statisticheski Godishniki, various years. 1975: UN Monthly Bulletin of Statistics, Feb. 1977, p. 205. 1976: Plan fulfillment report. Index in constant prices from UN Monthly Bulletin of Statistics, various issues.

TABLE 5.—GROSS NATIONAL PRODUCT BY SECTOR OF ORIGIN

[1965=100]

	Year weights	1965	1970	1971	1972	1973	1974	1975	1976
Industry.....	33.35	100	150.5	160.7	166.1	174.9	187.4	198.6	208.5
Agriculture.....	29.23	100	101.9	100.7	107.8	108.5	102.0	113.8	115.5
Forestry.....	.49	100	111.9	107.3	107.6	106.8	104.4	99.3	93.9
Construction.....	6.99	100	138.2	140.0	141.8	145.8	155.8	161.7	169.6
Transport.....	6.71	100	180.7	194.6	208.2	226.0	244.8	261.8	227.8
Communications.....	.66	100	128.4	134.8	139.7	145.9	145.7	147.8	146.2
Trade.....	5.90	100	151.3	161.2	171.8	187.0	204.1	219.7	235.7
Other industrial production.....	1.54	100	110.6	110.3	123.0	132.2	136.4	182.0	225.0
Housing.....	6.45	100	119.8	124.4	129.4	135.6	141.1	147.2	152.8
Municipal services.....	1.61	100	124.4	122.7	123.8	117.1	116.4	120.4	122.3
Banking and insurance.....	.25	100	145.0	150.1	158.0	163.4	171.2	173.8	174.8
Other nongovernment services.....	.24	100	140.3	161.8	161.9	175.9	183.5	186.2	187.3
Government services.....	6.58	100	122.4	125.8	132.2	139.4	146.1	151.4	161.2
Total.....	100.00	100	128.8	133.3	139.9	145.7	150.5	161.7	169.2

Note: Weights are 1968 percentages of total GNP at adjusted factor cost. Indexes are calculated with 1968 prices.

Source: T. P. Alton & Associates, "Economic Growth in Eastern Europe, 1965-75" (and revisions), L. W. International New York, 1976.

<sup>15</sup> Not shown in Table 5. This figure comes from another study of the same project: E. M. Bass: "Bulgarian GNP by Sectors of Origin, 1950, 1955, 1960-74." L.W. International, New York 1975 p. 2.

There are two major differences between the official estimates and Alton's. Alton's estimates are on a GNP basis and this includes various services excluded from the official index. If national income produced in these sectors were excluded from the Alton index, the annual growth rate in 1965-70 would be raised to 5.4 percent and in 1970-75 to 4.8 percent.<sup>16</sup> More important in explaining the differences between the two indexes is the weighting of the various sectors. In 1968 agriculture has a weight of 29.23 percent in the Alton index, or 33.44 percent of the material production sectors. In the official index in 1968, the weight of agriculture is 19.37 percent. In the Alton index the ratio of agriculture to industry is 1:1.14 while in the official index it is 1:2.83. As a result, the Alton index is much more heavily influenced by the performance of the agricultural sector than is the official index. The rapid growth of agricultural production in the years 1960-65 leads to Alton's index recording a faster rate of national income growth than does the official index. In the Fifth Plan period (1966-70), industry growth accelerated while agricultural performance was disappointing. Thus, the official index shows an increased national income growth rate for this period, while Alton records a declining growth rate. In the Sixth Plan period (1971-75), both indexes record slower rates of growth. The decline is more marked in the official index than in Alton's because agricultural performance has improved in the 1970's.

Agriculture is extremely important as a source of inputs for industry. Shortfalls in agricultural production have a marked impact on industrial production in the subsequent year. This can be seen clearly in Table 4. After recording nominal industrial growth rates of 11.6 percent annually in the Fifth Plan period (1966-70) industrial production in 1971 rose at the respectable rate of 9.1 percent. Agricultural production that year declined and consequently industrial growth in 1972 fell to 7.9 percent. Good harvests in 1972 and 1973 allowed industrial production to rise by 9.0 percent in 1973 and 10.2 percent in 1974. However, in 1974 the country suffered a severe drought and agricultural production fell again. This brought the industrial growth rate in 1975 down to a disappointing 6.4 percent, the lowest rate since 1962. Some recovery in the industrial growth rate is reported for 1976, and the record harvests of 1975 and 1976 make a good industrial performance in 1977 probable.

The construction sector has behaved erratically during the 1970's. In the period 1965-70, the net material product of the construction industry grew by 13.4 percent a year. This reflects massive investment made possible by large assistance from the USSR in the early 1960's and Western credits later and corresponded to an accumulation rate of as much as 33.2 percent of utilized national income in 1969. In 1970 such assistance ceased and it became necessary to begin to repay the credits received. The construction sector took the brunt of the adjustment to this new situation, and in 1971 and 1972 growth rates of only 4 percent were recorded by this industry. Production, however, picked up in 1973 and 1974 as the balance of payment's constraint slackened.

Table 6<sup>17</sup> shows that for each year of the Sixth Five Year Plan (1971-75), utilized national income was greater than produced national

<sup>16</sup> Other adjustments would also have to be made to make the two indexes methodologically compatible.

<sup>17</sup> Table 6 presents one methodological problem: the identity of the item "undistributed part" of net material product. Throughout most of the 1960's and 1970's, this item has been negative, in other words has gone to increase domestic expenditure. The most likely explanation is that it is a combination of statistical discrepancy and hidden reserves which have failed to be included in the accumulation fund. If so, it would be the opposite of the item "losses".

income. From 1970 to 1974, produced national income rose by 24.4 percent while utilized national income rose by 36.1 percent. Whereas in 1970 domestic expenditure (which is equal to utilized national income) was 51 million leva less than production, by 1974 it was 1169 million leva greater than production. In 1975 the gap was probably even greater although no data on the accumulation fund have been published yet.

TABLE 6.—NET MATERIAL PRODUCT (PRODUCED AND CONSUMED)

[In millions of leva, current prices :]

Year	National income produced (1)	Balance of foreign trade and credits (2)	Losses (3)	National income for distribution (4)	Undistributed part (5)	Utilized national income (6)	Accumulation fund (7)	Consumption fund (8)
1960.....	4,488.8	97.6	32.8	4,553.6	90.4	4,463.2	1,222.3	3,240.9
1965.....	6,635.6	52.9	80.8	6,607.7	-137.2	6,744.9	1,916.8	4,828.1
1970.....	10,527.4	-174.9	129.4	10,223.1	-252.9	10,476.0	3,059.7	7,416.3
1971.....	10,411.0	77.0	114.0	10,375.0	-61.0	10,436.0	2,462.0	7,974.0
1972.....	11,242.0	115.0	129.0	11,228.0	-350.0	11,578.0	3,088.0	8,490.0
1973.....	12,148.0	200.0	146.0	12,202.0	-466.0	12,668.0	3,581.0	9,087.0
1974.....	13,093.0	1,109.0	164.0	14,038.0	-224.0	14,262.0	4,446.0	9,816.0
1975.....	14,289.0	1,516.0	188.0	15,617.0	-----	-----	-----	10,621.0
1976.....	15,289.0	666.0	208.0	15,747.0	-----	-----	-----	11,364.0

Note: columns (1)+(2)-(3)=(4); (4)-(5)=(6)=(7)+(8). 1960, 1965, and 1970 figures come from an unpublished official Bulgarian source. National income produced for 1971-74 are from Statisticheski Godishniki, various issues, for 1975 from U.N., Monthly Bulletin of Statistics, February 1977, p. 205. for 1976, estimated from the plan fulfillment report, Rabotnichesko Delo, Feb. 3, 1977. Balance of foreign trade and credits for 1971-76 is estimated. Unpublished official Bulgarian data for 1960 to 1970 show the relationship: Balance equals  $-41.1+22.4t-1.758B$ , where  $t$  is time in years ( $t(1960)=0$ ) and  $B$  the foreign trade balance in millions of valuta leva. This relationship is assumed to continue until 1976. Incidentally, the equation implies an average rate of 1.76 domestic leva per foreign trade lev during the 1960s. Losses for 1974-76 are estimated. Unpublished official Bulgarian data for 1960 to 1970 show the relationship: Losses equal  $-83.5-7.8t+0.0272$  NIP where  $t$  is time in years ( $t(1960)=0$ ) and NIP is national income produced. The accumulation and consumption funds for 1971 and 1972 come from U.N., Monthly Bulletin of Statistics, February 1977, p. 191. The consumption fund for 1974 was given by BTA on Dec. 3, 1975, data for 1975 and 1976 are based on plan fulfillment reports. The accumulation fund for 1973 and 1974 and the consumption fund for 1973 are based on data from Statisticheski Godishniki, 1975, p. 112 and assumes no change in prices. Columns 4, 5, and 6 are sums and residuals. There is some problem in identifying the undistributed part of national income. It may indicate a statistical discrepancy. For a discussion of the differences between produced and utilized national income see E. Mateev, "Balans na narodnoto stopanstvo", 3d ed., Sofia, 1972, pp. 201-205, 248-250, and A. I. Petrov, ed., "Statistika stran-chlenov SEV", Moscow, 1973, p. 253.

The increasing gap between production and expenditure in the course of the Sixth Five Year Plan was largely unplanned. In no year was the target for produced national income met and for the five years as a whole, the increase in national income produced was 46 percent, at the bottom of the targetted 45 to 50 percent range. Both consumption and accumulation, however, consistently grew faster than planned. Investment over the five years was scheduled to grow by 5.5 percent a year, but the growth rate achieved was 6.5 percent. Real income per worker rose by 6.1 percent per year compared to the target rate of 4.5 to 5.5 percent. Retail turnover grew by 7.9 percent against the target of 6.8 percent.<sup>18</sup> The overinvestment failed to bring about a subsequent accelerated rise in production because much of it served to increase the stock of unfinished construction. On the consumption side, increases in purchasing power rose faster than the supply of goods and services.<sup>19</sup>

The growing gap between production and consumption has been filled by increasing trade deficits. In 1975, the deficit reached 694

<sup>18</sup> Le Courier des Pays de l'Est, April 1976.

<sup>19</sup> See "Partekongress in Bulgarien", Neue Zürcher Zeitung, March 30, 1976.

million valuta leva which is estimated to be equivalent to 1516 million leva in domestic currency. These trade deficits were almost entirely with Western countries and were financed by an impressive accumulation of debt.<sup>20</sup> These deficits reached a peak in the second quarter of 1975. Since then, imports from the west have fallen and the gap narrowed.

In a centrally-planned economy it is possible to correct balance of payments disequilibria by direct administrative instructions to foreign trade enterprises to reduce imports. However, it is also necessary to introduce some form of domestic stabilization policy otherwise the shortage of imports may disrupt production, reduce the volume of investment sharply, or lead to consumer demand rapidly overtaking supply. Bulgaria introduced a policy of domestic restraint in 1973, but the succession of similarly sounding decrees since then imply that the policy has been insufficiently tight. A more severe stabilization effort was introduced in July 1976 and it is possible that this will lead to the required adjustment. The data of Table 6, however, show how large an adjustment is necessary.

The trade deficit of the early 1970's will probably have to be reversed during the late 1970's. A reasonable assumption might be that in 1980 Bulgaria will need to run a trade surplus of about 500 million domestic leva. If the further assumption is made that losses of national income are about compensated by an inflow under the item "undistributed part," utilized national income will equal produced national income minus the trade surplus. If produced national income grows as planned, it will amount to 20719 million leva in 1980 (1975 national income increased by 45 percent). Utilized national income will reach 20219 million leva. The growth rate of produced national income over the Seventh Five Year Plan will be 7.7 percent a year while that of utilized national income will only be 5.0 percent a year. If the Accumulation Fund is brought down to 26 percent of utilized national income by 1980, this will imply an annual growth rate of this item of only 0.3 percent.

##### 5. STABILIZATION POLICIES

The preoccupations of the Bulgarian authorities concerning economic policy have remained unchanged over the period 1973 to 1977. The underlying concern has been to reduce waste, to reduce stocks of unfinished construction and to introduce a regime of strict economy. These efforts have been directed to increasing the volume of produced national income and reducing the amount of non-productive accumulation. An additional instrument to restore balance to the national economy would be the restraint of personal consumption. However, in December 1972, a special program was launched for raising living standards. The program appears to have been designed and launched before the authorities realized the extent of economic imbalance. In any case, the authorities have not made major efforts to moderate the growth of personal consumption. This may have been in accordance with a theory that rising living standards would themselves bring about a growth of labour productivity adequate to fill the gap between supply and demand, or simply because of the prestige embodied in the consumption program.

<sup>20</sup> See Section 13, below:

The call for strict economy was made in 1973. In July 1973, national programs were introduced in six sectors to save raw materials. This was supplemented later in the year by a national emulation campaign launched by workers in Plovdiv to reduce the use of material inputs. The second goal of the program was to reduce the length of time needed for commissioning investment projects and thus reduce the backlog of construction inherited from 1971-2.

These efforts were only partially successful. It was reported in 1973 that of 65 surveyed enterprises, 56 remained behind-hand in their commissioning of fixed capital.<sup>21</sup> 1974 was declared a "Year of Shock Work" in honor of the thirtieth anniversary of Communist rule and a successful effort was made to concentrate resources on commissioning projects already started. In March 1974, a number of current problems were aired at the National Party Conference. Stress was placed again on the waste of raw materials. It was noted, for example, that the Bulgarian machine building industry wasted 10 to 20 percent more metal than its U.S., U.K. or Canadian counterparts.<sup>22</sup> Another criticism made was the poor quality of many Bulgarian goods. This made exporting more difficult and led domestically to the accumulation of unsaleable stocks. Following the National Party Conference, in July 1974 a policy of reducing the numbers of managerial and office personnel was announced, and a temporary ban on new recruitment imposed.<sup>23</sup> On August 4, 1974 a Decree on Saving Materials, Fuel and Power was issued. This called for the drawing up of a comprehensive national savings program by the end of 1974.

While these measures were clearly steps in the right direction, they do not appear to have been pursued with sufficient determination. Thus in 1975, despite further calls for concentrating investment resources on commissioning already started projects, the backlog of construction grew again. In July 1975, a new Decree on the Use of Scrap Materials was issued, implying that the Decree of August 1974 had failed to bring about dramatic results. Some data were given for the low level of scrap utilization in Bulgaria. Only 23 percent of paper was collected for recycling compared to 50 and 40 percent in West and East Germany respectively. Only 26 percent of metal was produced from scrap compared to 37 percent in West Germany and 42 percent in Japan.<sup>24</sup> These deficiencies were attributed to poor organization, lack of capacity and the absence of a comprehensive program for collection.

The efforts of the authorities to rebalance the domestic economy throughout 1973, 1974, 1975 and the first part of 1976 were inadequate. The economy gave an impression of drifting while huge external debts piled up and consumer purchasing power ran ahead of supplies. The share of construction in new projects in the first half of 1976 remained at the same level as during the first half of 1975.<sup>25</sup> In these circumstances, a Central Committee Plenum was called in July 1976 to launch a decisive attack on "shortcomings that have been hampering production for many years".<sup>26</sup> In his report, Zhivkov called for the application of "Leninist principles of administration and management." He identified the squandering of resources on unfinished

<sup>21</sup> RFER, Background Report No. 8 of July 15, 1974.

<sup>22</sup> Ibid.

<sup>23</sup> RFER, Situation Report No. 24 of July 23, 1974.

<sup>24</sup> RFER, Situation Report No. 23 of August 6, 1975.

<sup>25</sup> "Bulgaria: Economic Performance Criticized," *Business Eastern Europe*, August 27, 1976.

<sup>26</sup> *Rabotnichesko Delo*, July 30, 1976.

investment projects, poor quality goods piling up in warehouses, low levels of production efficiency and the waste of materials, financial resources and time as being the major problem areas. In response he announced a number of new programs for more efficient use of raw and other materials, for the full utilization of secondary raw materials (i.e. scrap), a reduction in the number of unfinished construction projects, an acceleration of the turnover of financial resources, a reduction in subsidies, financial losses and agricultural production costs, a reduction in the volume of substandard production, the rationalization of the management apparatus and the efficient use of transport.

In the subsequent months, a number of concrete steps have been taken to implement the decisions of the July 1976 Plenum. In August 1976, the Council of Ministers adopted various programs to accelerate the turnover of financial resources and to reduce the volume of unfinished construction.<sup>27</sup> On October 1, 1976 the speed limit was reduced to 80 kmph. Most dramatic was a decision to cut numbers of managerial and administrative personnel.<sup>28</sup> While an earlier program to do this in July 1974 had clearly proved ineffectual, the new decision talked of reducing administrative personnel by 15 to 30 percent.<sup>29</sup>

The stabilization program of the July 1976 Plenum has a good chance of success. For the first time in the 1970's it represents a mobilization of the entire party apparatus to solve some of the problems of waste and overinvestment. One pointer to the severity of the program is the fact that in the 1977 Plan, produced national income is scheduled to rise by 8.2 percent while utilized national income will only grow by 4.5 percent.<sup>30</sup> If this low growth rate is achieved, bearing in mind that most targets for consumption and accumulation have been overfulfilled in the 1970's, it will be a sign that Bulgaria is capable of balancing internal supply and demand and perhaps even of running export surpluses by the end of the decade.

## 6. LABOR

Bulgaria was traditionally a labour-surplus agricultural economy and yet, throughout most of the 1960's and the 1970's, many articles in the press talk about the labour shortage. This is all the more strange when countries at a similar level of development, such as Spain, Portugal, Greece and Yugoslavia, are suffering from high levels of unemployment and export large quantities of labor to Western Europe. Despite this, a real labour shortage is perceived in Bulgaria, which stems from a combination of supply constraints and exceptional demand, the latter being a product of both the economic system and the growth strategy of the country.

Unemployment was effectively eliminated in Bulgaria during the Great Leap Forward. This was achieved by the mass mobilization of labour for capital construction projects and by adapting the crop structure to take better account of the available agricultural labour.<sup>31</sup>

<sup>27</sup> Radio Sofia, 20 August 1976.

<sup>28</sup> *Dürzhaven Vestnik* No. 66 of August 17, 1976.

<sup>29</sup> *Nova Makedonija*, August 21, 1976 quoted in RFER, Situation Report No. 24 of August 26, 1976.

<sup>30</sup> BTA, October 29, 1976.

<sup>31</sup> See Charles A. Cooper, "Agriculture, Labor Surplus, and Foreign Trade in Bulgaria, 1925-60", unpublished Thesis, M.I.T., Cambridge, Mass., 1960

In addition, the cumulative effects of the extensive growth strategy of the 1950's was to create a large, but low productivity, industrial labour force. From that point (1960) on, a labour shortage was felt in Bulgaria. The virtual absence of open or disguised unemployment meant that additional labour could only be employed in one sector if released from another. The structure of economic incentives, however, was such as to encourage a hoarding of labour. Reserves of labour in an enterprise allowed the management greater flexibility in fulfilling plans. The real returns on making small-scale mechanization or reorganizing production to release labour were too small to encourage these processes. The labour shortage in Bulgaria is thus a consequence of Holzman's "overfull employment planning".

The labour shortage is felt in all sectors. In 1975, demand for labour was estimated to be 2 percent greater than supply in industry, 2.9 percent in construction and 4.4 percent in transport.<sup>32</sup> During the harvest season, there is a particularly severe shortage in agriculture and some 150,000 extra people are mobilized to participate in harvest brigades. Another sector where the shortage is one of unskilled labour is the construction industry. In 1974, in particular, there was an extensive campaign to encourage people to participate in finishing projects in time for the thirtieth anniversary of Communist power.<sup>33</sup> Labour shortages have also been felt in the retail trade network, particularly in connection with the transition to a five day week.

The watchword of the 1970's has been "social labour productivity", and raising this productivity has been at the center of the authorities' attention. The importance attached to labour productivity clearly indicates the efforts of the authorities to achieve intensive growth. The use of campaigns, such as the "counter planning" movement and initiatives to save raw materials, has been more widespread in the 1970's than in the 1960's. This may reflect an attempt to change the attitude of the worker to his work and achieve higher labour productivity by ideological means. There are good reasons for such an approach in Bulgaria. The change of the society from a predominantly agricultural to an industrial one has been so rapid that most workers are only one generation or less removed from agriculture. Industrial socialization has only achieved a small foothold in the working class, and such campaigns may be the most effective way to bring socialization about. The quality of the labour force may now be a major factor retarding growth in Bulgaria. The complexity of capital investment may be increasing faster than the technical qualifications of the labour force and this may be leading to the declining marginal productivity of capital.

In addition to the systemic reasons why Bulgaria should feel a labour shortage, there have been objective factors causing the supply of labour to dry up. Firstly, the rate of increase of population of

<sup>32</sup> Ikonicheski Zhivot, No. 16/1975, quoted in ABSEES No. 4/1975 Item No. 395.

<sup>33</sup> This campaign was not greeted by universal acclaim. "The building sites were swarming with people: students, soldiers, employees of ministries and departments, people from different professions and from different ranks of the administrative hierarchy. They put on workers' clothes and became building workers for days, weeks, or months. I am not naive, and it is difficult for me to claim that this transformation is easy, that all these people left their offices and desks and went to the building projects filled with enthusiasm and a terrific longing for manual labour. No, comrades! There have been people, perhaps even many people, who went there out of discipline, because they were embarrassed to face their colleagues, guided by the feeling that this is necessary for the fatherland and that they cannot do otherwise. There may have been people who were unwilling, and it is even possible that our government may have been now and then the subject of some kind 'Bulgarian-style' blessing \* \* \*." Todor Zhivkov, Radio Sofia September 6 1974 (Translated by FBIS)

working age (15 to 64 years) has dropped sharply over recent years and is now one of the lowest in Eastern Europe. During the Seventh Plan Period (1975-80), this potential labour force will grow at a rate of 0.3 percent annually, about the same rate as Czechoslovakia and lower than all other East European countries except Hungary.<sup>34</sup> Bulgaria will probably retain its penultimate position during succeeding plan periods. Of course, the pronatalist policies of the authorities cannot be expected to have any effect on this figure until the 1990's. The second source of growth in Bulgaria has been the migration from low productivity agriculture to high productivity industry. This source has been diminishing as the relative sizes of the agricultural and industrial labour forces changed and as labour productivity in agriculture rose. In 1952, a movement of 1 percent of the agricultural labour force into industry increased industrial employment by 6.6 percent. In 1974, the same transfer would increase employment by only 0.9 percent. In 1952, one worker in industry produced 4.9 times as much national income as one worker in agriculture. By 1973, the former only produced 2.3 times as much. The third source has been the increasing participation of women in the labour force. This share has risen from 32.1 percent in 1960 to 46.4 percent in 1973. However, it seems probable that the ceiling has been reached. The efforts of the authorities to attract more women into the labour force may conflict with their efforts to raise the birthrate. One Bulgarian source foresees a decline in the female share of the labour force to 45.7 percent in 1985 and 44.7 percent in 2000.<sup>35</sup>

As a further factor causing a labour shortage, the reduction in the working week may be mentioned.<sup>36</sup> The number of holidays, leave-days and weekend days for industrial workers has risen from 74 in 1965 to 82 in 1970 and 99 in 1974.

The authorities see three main sources for increasing the supply of labour: pensioners, students and women. The problems involved in the increased participation of the last group have already been noted above. One approach that is being tried is to reduce the time spent by the average woman in domestic work, which was reported to be 4 hours a day.<sup>37</sup> Encouraging pensioners to continue working seems a real possibility. The retirement age in Bulgaria is relatively low (55 for women and 60 for men) and of the 1.7 million pensioners it was reported that only 9 percent work.<sup>38</sup> To attract pensioners back to work, the financial incentives have been improved considerably. Large numbers of students are employed during the summer in harvest brigades and during the rest of the year in construction work. Both students and pensioners are being looked to as a means of relieving the shortage of retail trade workers. An agency has been established in Sofia for mobilizing student labour.

Efforts have been made to reduce the numbers of administrative personnel and to place the workers thus freed into more productive employment. In recent years, the number of people in administrative positions has risen much faster than those directly involved in production. In industry alone, the numbers of directly productive workers.

<sup>34</sup> U.S. Department of Commerce, "Projections of the Population of the Countries of Eastern Europe, by Age and Sex: 1975 to 2000", International Population Reports, P. 91, No. 25, July 1976 p. 60.

<sup>35</sup> Ilieva, N., Trifonov, T., Tsaneva, N., "Izpolzuvane na zhenskite trudovi resursi v NRB", Sofia, 1973., quoted in ABSEES No. 3/1974 item No. 458.

<sup>36</sup> See sec. 11.

<sup>37</sup> Rabotnichesko Delo, Apr. 25, 1974, quoted in ABSEES No. 3/1974, item No. 437.

<sup>38</sup> Ibid.

and employees rose by 33.6 percent between 1965 and 1974. Over the same period, the numbers of workers and employees outside direct production increased 66.7 percent. Administrative-managerial personnel in Bulgaria represent 13.5 percent of the total labour force, compared with only 6 to 7 percent in the other socialist countries, according to one Bulgarian source.<sup>39</sup> Various campaigns have been waged to reduce the numbers of such personnel. For example, in July 1974 a temporary ban was imposed on the hiring of managerial and office personnel. In August 1976, a decree cutting the numbers of such personnel was issued, which may lead to a reduction of 15 to 30 percent.<sup>39a</sup>

One further factor influencing the supply of manpower may be mentioned. That is labour migration. The shortage of workers in Bulgaria led to the signing of an agreement with Egypt in 1972 for the import of labour. This agreement was never implemented, but an agreement with Yugoslavia in 1973 did bring Yugoslav construction workers to Bulgaria. Migrant labour from Yugoslavia has been used in the harvest for several years, in particular for fruit picking in Western Bulgaria. While Bulgaria has thus imported some labour, it has also exported labour, primarily to the USSR, but also to a lesser extent to Czechoslovakia and East Germany. Some 6,000 workers are employed in three Bulgarian lumber enterprises in the Komi ASSR;<sup>40</sup> about 4,000 other workers were reported to be employed in 1973 in construction work in various Soviet republics, at the Kursk Magnetic Anomaly and on the Orenburg Gas Pipeline. 10,000 people represents rather less than 0.3 percent of the total number of workers and employees employed in Bulgaria.

The full use is not necessarily made of what labour is available. In 1975, it was estimated that the equivalent of 170,000 man-years were wasted in industry alone.<sup>41</sup> Of this time, some 50 percent was due to poor coordination of production plans and 12 percent to shortages of raw and other materials. Thus much of the waste of time must be attributed to the poor organization of production. Other figures supporting this showed that workers engaged in material production spent 70 percent of their working time in effective labour in 1971.<sup>42</sup> This figure represented an increase from 62 percent in 1965 and it was hoped to raise the figure to 76 percent in 1975 and 83 percent by 1980.

Other problems include labour discipline, turnover and the level of qualifications. There have been repeated complaints about absenteeism, unpunctuality and the use of working hours for personal business. Labour turnover is high; in 1974, 10.7 percent of the industrial work force and 21.6 percent of those employed in construction changed their jobs.<sup>43</sup> Of the total labour force, some 46.7 percent were unskilled in 1975<sup>44</sup> and it was estimated that about 20 percent of specialists were employed in work that did not utilize their qualifications.<sup>45</sup>

<sup>39</sup> Otechestven Front, April 20, 1976, quoted in RFER, Situation Report No. 24 of August 26, 1976.

<sup>39a</sup> See sec. 5, above.

<sup>40</sup> Rabotnichesko Delo, May 11, 1974, quoted in ABSEES No. 4/1974, item No. 441 and Pogled, November 4, 1974, quoted in ABSEES No. 2/1975, item No. 396.

<sup>41</sup> RFER, Situation Report No. 13 of April 28, 1976.

<sup>42</sup> G. Evgeniev, I. Dikov, "Avtomatizatsiata na proizvodstvoto i problemite na truda," Sofia, 1973, quoted in ABSEES No. 2/1974, item No. 464.

<sup>43</sup> Ikonomicheski Zhivot No. 16/1975, quoted in ABSEES No. 4/1975 item No. 395.

<sup>44</sup> Finansi i Kredit No. 9/1975, quoted in ABSEES No. 2/1976 item No. 388.

<sup>45</sup> Problemi na Truda, No. 7/1973, quoted in ABSEES No. 2/1974 item No. 449.

To combat some of these phenomena, a "counterplanning" campaign was launched in December 1971 which has remained in force ever since. This movement was described by Zhivkov as a successful Bulgarian initiative, which has "enjoyed a favorable response in a number of fraternal countries".<sup>46</sup> The concept of counterplans (or supplementary plans) goes back at least to Stalin's First Five Year Plan. Under this system, the Central Planning Commission would issue enterprises with their plans. Then the workers would spontaneously pledge to achieve much higher targets. These counterplans would then be incorporated in the National Plan. Such a system of mobilization has been associated historically with phases of extensive growth. The Bulgarian initiative consists in adapting the system to tackle problems associated with intensive development.

The counterplans are part of a socialist emulation movement to raise the efficiency and quality of production. The working collectives pledge to achieve savings in the use of resources, a better use of scrap and waste and higher quality indicators.<sup>47</sup> These targets are ones that are difficult to incorporate into the incentive structure for socialist enterprises. Thus, the responsibility for their fulfillment is taken over by the trade unions which rely on moral rather than material stimuli.

An extension of this emulation campaign is "emulation on a contractual basis". Under this system various collectives link their counterplans so higher production can be achieved. In this form of contractual counterplanning special emphasis is placed on the quality and timeliness of mutual deliveries. It was reported that 72,000 brigades, shifts and other collectives had signed such emulation contracts in 1974.<sup>48</sup> The movement has also extended to the conclusion of contracts with enterprises abroad.

Some abuses of the counterplanning system were noted by Zhivkov at the National Party Conference in March 1974.<sup>49</sup> The abuses appeared to consist of the manipulation of counterplanning targets and regular targets to alter the distribution of bonuses. These, in some cases, had removed the incentives for workers to establish such counterplans.

Material stimuli have been used too to encourage saving labour and raising the quality of production. From 1974, any economy in the wage fund resulting from reducing the number of workers below planned remains at the disposal of the collective. Similarly, 40 percent of the economy in the use of materials, fuel, etc. compared with the state plan and 50 percent of any additional income from producing better quality products than provided for in the plan remain with the collective.<sup>50</sup>

## 7. ECONOMIC MANAGEMENT

Since the realization in the early 1960's that there were serious shortcomings in the traditional system of central planning, there has been an continued search for new methods of economic management. The seminal article of the Soviet Professor Liberman was republished in Bulgaria in 1962 where it awoke sympathetic discussions and some

<sup>46</sup> Quoted in RFER, Background Report No. 8 of July 15, 1974.

<sup>47</sup> I. Shpatov. "Vsenarodnoe sotsialisticheskoe sorevnovanie v Bolgarii" in B. A. Yurin, ed.,: "Sotsialisticheskoe sorevnovanie v stranakh bratskogo sohdruzhestva: Sbornik statei," Moscow, 1975 pp. 10-25.

<sup>48</sup> Ibid.

<sup>49</sup> See RFER, Background Report No. 8 of July 15, 1974.

<sup>50</sup> Shpatov, *op. cit.*

experiments. However, the proposal that the market become the principal regulator of economic activity was buried by 1965, and since that time the main search has been for more effective administrative structures of management. The advocates of market socialism have left a certain legacy to subsequent mutations of the economic mechanism, in the form of a more rational price system, an increased use of contracts to coordinate inter-enterprise relations, a substantial replacement of compulsory administrative controls by financial levers and the strengthening of cost accounting, and thus the autonomy of economic organizations. Despite this, the main thrust of reform has been to experiment with redistributing autonomy and control among the enterprises themselves, large trusts, known as State Economic Associations (SEA), and most recently, National Economic Complexes. As with the reorganization of agricultural administration, Bulgaria has shown a certain amount of originality in this reform.

The attempt to create a new management structure has been an attempt to tackle three interrelated problems. The first is how to improve coordination between productive units. This problem is one of what happens at the "interstices" of the economic system and how to prevent autarkic behavior by the enterprise or other unit. The second problem is that of reaping the economies of scale without suffering the diseconomies. There has been a prolonged campaign for specialization and concentration of production, although, if achieved, it might increase the problems of coordination of supply. The third area of attention is that of the effective use of modern science and technology to raise quality, labor productivity and the productivity of materials. These issues are likely to remain preoccupations of the Bulgarian authorities for the foreseeable future.

The first attempt to solve these problems by reorganizing the system of management can be dated to the Decree of the Council of Ministers on the Application and Development of the "New System of Management of the National Economy" of November 6, 1968. This created the SEA as a management body for a group of enterprises in the same sector.<sup>51</sup> Under this system, the enterprise remained the basic unit of the economy; it continued to operate on the basis of cost accounting and consequently retained its own bank account, made contracts with other State enterprises and made payments to the State Budget. The SEA was in charge of distributing plan targets among its member enterprises and assisting them in sales, supply, the introduction of new technology, etc. It was constituted as an independent economic unit supported by the contributions of its members. In practice it turned out that this kind of body was not sufficiently integrated into the system. From the viewpoint of the enterprise the SEA appeared irrelevant because it had neither the authority to influence the enterprises behavior once it had distributed the plan target, nor the financial means to assist the enterprises.

The system of management was consequently changed in 1970.<sup>52</sup> The new system in effect turned the enterprises into branches of SEAs and this was further emphasized when the regulating documents were amended in 1972.<sup>53</sup>

<sup>51</sup> Earlier decrees in 1965 and 1967 first introduced the SEA, but they remained experimental until 1968. See B. Ilev, "Stopanskata smetka na Dürzhavnite stopanski obedinenia, Sofia," 1972, p. 64.

<sup>52</sup> See the "Normativni aktove za prilozhenie na ikonomicheski mekhanizum prez perioda 1971-1975," in Dürzhaven Vestnik No. 98 of December 11, 1970.

<sup>53</sup> See Dürzhaven Vestnik, No. 4 of January 12, 1973.

The principle behind the new system was that the SEA should be the basic unit of the economy. The regulating documents provided for various degrees of financial and legal autonomy for the branches of SEAs. The SEA administration received its plan targets and norms directly from the central authorities. It operated on the basis of full cost accounting and conducted an exchange with other SEAs. From the viewpoint of the enterprise, the SEA administration replaced the central authorities. The SEA administration converted the plan target it had received into targets for individual enterprises. While the SEA as a whole had to fulfill certain norms (such as return on fixed assets) in its activity, the SEA administration could differentiate these norms enterprise by enterprise. The latter were placed on a system of internal cost accounting applying the norms and prices specified by the SEA administration. The new system concentrated the financial resources at the level of the SEA administration, which was thus able to control the introduction of new technology and the reorganization of production processes.

At the end of 1970, when the SEA was made the basic form of the economy, the existing 97 SEAs were amalgamated into 64 larger SEAs with an average of 27 branches and 17,000 productive personnel each.<sup>54</sup> There was an average of about five SEAs under each branch ministry.

The main problem that emerged from this new structure was its rigidity, in that it imposed the same form of management on each branch of the economy, irrespective of the needs or technological level of the branch. Thus it is not certain that the optimal management system for a specialized producer of metal-cutting machinery (SEA "ZMM") is the same as the optimal system for the tourist industry. Another difficulty was that the reform only eliminated the problem of enterprise autarky at the cost of creating SEA autarky. Problems of coordination persisted since, although there were fewer units to be coordinated, the remaining units were more inward-looking and more in the nature of empires.

The need for additional flexibility made it necessary to amend the regulations in February 1974.<sup>55</sup> This provided for a variety of organizational forms in addition to the SEA. Such forms included State Economic Combines, United Economic Enterprises, State Economic Complexes and Territorial Industrial-Agricultural Complexes. Later in 1974, the wider rights and responsibilities of the branch ministries were mentioned during Zhivkov's speech to the National Party Conference. In some sectors, branch ministries were becoming State economic bureaus for managing the system of economic, scientific and other organizations in the branch. Thus in some branches, some of the functions of the SEAs were transferred to the Ministry.

The clearest example of one form of organization envisaged in this metamorphosis of the management system was provided by the reorganization of the chemical industry in 1975.<sup>56</sup> This provided for four of the seven SEAs in the sector to be reorganized into eleven autonomous economic combines and one united economic enterprise, all under the direct control of the Ministry. The united economic enterprise was placed in charge of oil and gas extraction and the exploitation

<sup>54</sup> See B. Ilev, *op. cit.*, pp. 49-51.

<sup>55</sup> Decree of the Council of Ministers, No. 13 of February 28, 1974 in *Dürzhaven Vestnik* No. 27 of April 5 1974. See RFER, Situation Report No. 13 of May 9, 1974.

<sup>56</sup> See RFER, Situation Report No. 25 of September 10, 1975, which quotes A. Pankov, *Ikonomicheski Zhivot*, No. 33 of August 13, 1975.

of the U.S.S.R.-Bulgaria gas pipeline. The eleven combines were formed from the dismantlement of the SEAs in charge of the Devnia Chemical works, petrochemicals, heavy chemicals and organics. The combines are each attached to one basic plant whose management looks after production, planning, financing and accounting for the whole combine, material supply and sales. The combines may have their own bank accounts, have the right to conclude contracts and are responsible for plan fulfillment. The subdivisions or peripheral plants of the combines have varying degrees of autonomy. The Ministry is responsible for technical development, investment policy, concentration and specialization of production and foreign economic relations. A major aim of the new system is to encourage the amalgamation and rationalization of small plants. The reform will also serve to reduce the degree of monopoly in Bulgarian industry. Whereas SEAs were organized to include an entire branch, the reorganized chemical industry, for example, contains three synthetic fiber combines.

The latest mutation of the Bulgarian management system has been the establishment of National Economic Complexes. This form of organization was first signalled in Zhivkov's speech to the December 1972 Plenum. In it he noted: "Our economy is a complicated dynamic system with many subsystems. A great part of these subsystems form objectively existing economic complexes."<sup>57</sup> It was widely expected that the first of these subsystems to be given an organizational form would be the National Agro-Industrial Complex. The formation of this unit was foreseen early in 1973 when it was expected to comprise agriculture, the food industry and possibly various industries providing agricultural inputs, such as agricultural machine building, fertilizers and agricultural chemicals. In fact, the first national economic complex to be created was the National Transport Complex which came into being on January 1, 1974. This was followed by the National Construction Complex on April 1, 1974. The National Agro-Industrial Complex was created by a decision of the Council of Ministers on August 5, 1976 (although without comprising any machine building or chemical industries) and the National Trade, Tourism and Public Services Complex was set up in January 1977.<sup>58</sup> In the basic regulations for economic organizations during the Seventh Five-Year Plan,<sup>59</sup> national economic complexes are described as the "basic structural units of the national economy."

The creation of these complexes appears to be a Bulgarian innovation. Their purpose seems to be to improve the coordination of their subordinated economic organizations. In the construction sector, the coordination of supplies of building materials with the schedule for construction has been a problem for many years. In agriculture, one of the main problems has been to integrate processing enterprises with the farms and coordinate supplies from the latter with production capacity in the former.

The various complexes are subordinate to a branch ministry: the Ministry of Transport, the Ministry of Construction and Architecture, the Ministry of Agriculture and the Food Industry and the Ministry

<sup>57</sup> T. Zhivkov: "Za posledovatelno izpūlnenie resheniata na desetiia kongres na BKP za povishavane zhiznenoto ravnishie na naroda," Sofia, 1972, p. 146.

<sup>58</sup> A National Cultural Complex was established in 1974. The reorganized chemical industry, described above, has also been referred to as a national economic complex, see *Rabotnichesko Delo*, September 23, 1976.

<sup>59</sup> *Dürzhaven Vestnik* Nos. 100 and 101 of December 30 and 31, 1975. Noted in RFER, Situation Report No. 3 of January 28, 1976.

of Domestic Trade and Public Services, respectively. The Ministry has a dual role being at the same time a state organ and an economic organization. The complex is normally expected to be self-supporting, receiving funds from the State Budget only in special cases. As a result, the volume of the State Budget has been reduced and expenditures on the economy from this source planned for 1976 and 1977 were below the 1975 level. The complex as a whole operates on the basis of full cost accounting. The Ministry decides how much autonomy to give subordinate units and whether they should work on a full or internal cost accounting basis. The Ministry for each complex decides on the degree of independence of its subordinate units. It may redistribute the net income and accumulation funds of the organizations under it. The complex as a whole receives plan instructions and norms and the Ministry distributes the tasks among its subordinate organizations and may differentiate the norms.

Within each complex, under the Ministry, is a Council on which sit representatives of the Ministry and the subordinate units of the complex and representatives of other Ministries and public organizations involved in the complex's activities. Under the Council come the economic organizations comprising the complex. In the National Transport Complex,<sup>60</sup> these organizations consist of the State Economic Associations managing railroad, air and water transport and the Directorates in charge of roads, canals and ports. In the National Construction Complex<sup>61</sup> come the various State Economic Associations in the building materials industry and regional directorates for construction and architecture. The National Agro-Industrial Complex<sup>62</sup> has two subordinate levels. Below the Ministry come the State Economic Associations in the food processing and fodder industries, the various Scientific Production Associations, the Industrial Agricultural Associations and the regional Agricultural Administrations. Below these are the combines, amalgamated enterprises, scientific-production complexes, industrial-agricultural complexes and agro-industrial complexes. A problem arose with the establishment of the National Trade, Tourism and Public Services Complex.<sup>63</sup> Some organizations in retail trade such as the State Economic Associations "Rodopa" (meat) and "Bulgarplod" (fruit) were already subordinate to the National Agro-Industrial Complex. These have been made subordinate to both complexes. In addition, a number of organizations in the new complex have hitherto been managed by the State Committee for Tourism and the Central Cooperative Union. These organizations will remain subordinate to the latter two bodies but will also receive administrative instructions from the Ministry for Domestic Trade and Public Services.

How this new system will work in practice it is too early to tell. Certain problems seem evident. The dual function of the Ministries, which are expected to behave as both administrative state bodies and profitable economic units at the same time, seems likely to create difficulties. Similarly the dual subordination of some organizations may prove to

<sup>60</sup> RFER. Situation Report No. 2, January 17, 1974.

<sup>61</sup> RFER. Situation Report No. 8, March 28, 1974.

<sup>62</sup> Rabotnichesko Delo, September 23, 1976.

<sup>63</sup> Rabotnichesko Delo, February 2, 1977.

be an excuse for ignoring the instructions of both superiors. A third criticism is that the Bulgarian economy has been subject to too much organizational change over the past ten years. At the start of the Sixth Plan it was recognized that enterprises must expect norms and targets to be stable for long periods if the planning horizon is to be extended. Over the last few years, however, the organizational environment has changed so frequently that enterprise managers must be wary about making commitments. Some positive points are also to be noted. Firstly, the degree of experimentation and the hybrid system evolved indicate that the Bulgarian authorities are more concerned to establish practical solutions than intellectually neat ones. Secondly, the coexistence at present of a variety of organizational forms means that effective reforms can be established by testing rather than by a priori reasoning. The system of the early 1970's, which reorganized the whole non-agricultural economy on the basis of State Economic Associations, was intellectually satisfying; however, it did not provide for the diversity that characterizes the economies of the real world. One final conclusion is clear: that relations between enterprise, association, complex, and ministry have not reached their final form in Bulgaria.

#### 8. AGRICULTURAL PRODUCTION

The period 1956 to 1966 was one of steady growth in Bulgarian agriculture. Both the official gross output index and the index recalculated by Alton<sup>64</sup> show an increase of 90 percent over the period. This growth can be attributed to a more rational approach to agricultural problems following the April 1956 Plenum and the 1958-60 Great Leap Forward and the sharp increase in capital investment in agriculture during the latter period. The crop structure was changed to accord with Bulgaria's comparative advantage within the CMEA and agricultural procurement prices were raised decisively. Agricultural growth in Bulgaria during the first part of the 1960's was a considerable success.

The years 1966 and 1967 represented a high point in Bulgarian agriculture. Whereas annual growth rates of gross production in the preceding decade were in the region of 7 percent, since then the average growth rate has been only just over 2 percent. Production fell back in 1968 and 1969 and only reached the 1967 level again in 1970. In 1972 there was a further increase of 8 percent on the 1970 level, but production stagnated at that point for two further years. In 1975 and 1976 production rose by 7.5 and 3.1 percent respectively. In view of the increasing volume of inputs into agriculture, the growth rate of net agricultural production has been even lower since 1966-67. Alton's estimates show the 1966-67 level only slightly surpassed in 1972 and 1973, a relapse in 1974, when Bulgaria was hit by a severe drought, and resumed growth in 1975 and 1976. (See table 5.)

The slow rate of agricultural growth in the 1970's must be a matter of concern to the authorities. While agriculture no longer occupies the overwhelmingly important place in national income that it once did, its role in economic development is still crucial. There are two reasons

<sup>64</sup> G. Lazarek and W. Znayenko: "Bulgarian Agricultural Production, Output, Expenses, Gross and Net Product and Productivity, 1939 and 1948-67," Riverside Research Institute, New York, 1970.

for this. Firstly, agricultural products are Bulgaria's main source of hard goods exports. These give Bulgaria the power to buy easily from the West, subsidize exports of industrial products to other CMEA countries and consequently increase its room for manoeuvre. The decline in the growth rate of agricultural production has turned Bulgaria from a net exporter of hard goods into a net importer. The second reason for the strategic importance of agriculture lies in the authorities' program to raise the standard of living. Targets for the consumption of various foodstuffs have been set, and these targets have only been reached for vegetable oils and flour (an inferior good). Consumption of meat, milk, fruit and vegetables in 1975 was only 50 to 60 percent of the target, and fruit consumption in 1975 was actually 20 percent below the 1970 level. Increased agricultural production is thus the key to in raising the standard of living.

Table 7 shows average crop production and yields during the Fourth, Fifth and Sixth Five Year Plan Periods. The success story over this period has been grain production. In 1962, Zhivkov announced that the main problem in agriculture was the supply of bread grains. In 1974 this problem was declared solved. Bulgaria had changed over the period from a sporadic importer of grain to a small net exporter.<sup>65</sup> The focus of attention has now shifted from bread grains to the fodder problem.

TABLE 7.—CROP PRODUCTION

	Average production (thousand tonnes)			Average yield (kilograms per decare)		
	1961-65	1966-70	1971-74	1961-65	1966-70	1971-74
<b>Grains:</b>						
Wheat .....	2, 208	2, 199	3, 211	182.3	274.3	341.2
Barley .....	694	986	1, 421	204.5	243.7	312.5
Oats .....	141	121	74	99.5	123.3	125.9
Corn .....	1, 601	2, 147	2, 426	249.7	364.7	383.3
<b>Technical crops:</b>						
Sunflower seed .....	338	462	443	133.6	168.4	167.8
Cotton .....	39	46	41	76.3	99.9	108.8
Oriental tobacco .....	101	109	122	85.1	101.9	116.3
Sugar beet .....	1, 440	1, 862	1, 699	2, 036.7	3, 205.2	3, 191.8
<b>Vegetables:</b>						
Tomatoes .....	738	716	800	3, 017.9	2, 903.3	3, 004.3
Green peppers .....	171	221	240	1, 523.3	1, 709.2	1, 727.4
Potatoes .....	400	380	365	853.0	1, 139.6	1, 217.6
<b>Forage:</b>						
Turnips .....	354	751	785	2, 675.3	4, 168.2	4, 709.0
Corn for silage .....	3, 089	3, 340	4, 095	1, 045.2	1, 189.2	1, 240.7
Lucerne .....	951	1, 443	1, 499	335.9	444.5	456.2
Hay .....	611	607	619	224.0	230.2	240.4
<b>Fruits:</b>						
Apples .....	315	401	323	836.2	831.1	758.4
Plums .....	205	292	257	355.8	362.4	359.9
Peaches .....	66	157	139	840.7	903.4	1, 019.2
Wine grapes .....	676	677	672	547.6	547.6	542.0
Desert grapes .....	267	313	275	765.5	670.0	671.7

Source: Statisticheski Godishniki, 1974 and 1975.

Shortages of fodder plagued Bulgarian agriculture during the 1960's, and, as Table 8 shows, resulted in a decrease in numbers of cattle and pigs.

<sup>65</sup> Despite this, Bulgaria imported 300,000 tons of grain from the USSR under the clearing agreement in 1974, following the drought. B.T.A., October 29, 1976, 1848 GMT.

TABLE 8.—LIVESTOCK NUMBERS

[Thousand head]

	Cattle					
	Total	Cows		Pigs	Sheep	Poultry
		Total	Milch cows			
Jan. 1, 1961.....	1,452	547	462	2,553	9,334	23,366
Jan. 1, 1966.....	1,450	581	512	2,408	10,312	20,845
Jan. 1, 1971.....	1,279	589	546	2,369	9,678	33,706
Jan. 1, 1972.....	1,379	607	567	2,806	10,127	34,102
Jan. 1, 1973.....	1,441	620	579	2,598	9,921	34,788
Jan. 1, 1974.....	1,454	615	577	2,431	9,765	36,939
Jan. 1, 1975.....	1,554	644	599	3,422	9,791	35,089
Jan. 1, 1976.....	1,656	670	NA	3,887	10,020	38,072
Jan. 1, 1977.....	1,722	691	NA	3,453	9,723	39,504
Jan. 1, 1980 (target).....	2,250	1,000	800	6,000	10,000	-----

Sources: Statisticheskii Godishniki, 1974 and 1975. Data for Jan. 1, 1976 and 1977, from plan fulfillment reports. 1980 target from November 1973 Central Committee Plenum, see RFER, Background Report No. 1 of Feb. 8, 1974.

The chronic shortage of fodder is combined with unstable yields and poor organization of supplies. This has the effect that large numbers of livestock are slaughtered when there is a poor fodder harvest, and inadequate fodder supplies in general keep down the productivity of surviving animals. In November 1973, a program was launched to increase the population of farm animals to a level adequate to provide meat supplies for domestic consumption. The targets for livestock numbers in 1980 were based on the targets for meat consumption in that year. It seems unlikely that these ambitious targets will be met, but there has certainly been progress in livestock raising since 1974, and it is possible that by 1980 the cattle population will pass 2 million and the pig population 5 million.

The task of ensuring adequate fodder production and supply has been entrusted to the SEA "Grain and Fodder Industry" which was created from two separate SEAs in August 1975.<sup>66</sup> By combining the management of grain and fodder in this way, it is hoped to facilitate the switching of the bread grain area to forage grain and other forage crops. In 1960, 33.3 percent of the sown area was under breadgrains, 28.4 percent under forage grains and 19.7 percent under other fodder crops. By 1970, the area under breadgrains was down to 28.5 percent, that under forage grains up to 31.7 percent and that under other fodder slightly lower at 18.7 percent. The marked efforts to increase fodder production, especially silage, in the early 1970's resulted in a sharp switch from the now adequate breadgrains into other fodder crops. By 1974, the share of the former had fallen to 23.9 percent and that of the latter had risen to 23.1 percent; the share of forage grains was also higher at 32.4 percent.

From July 1, 1976, the SEA purchased all fodder produced by the public sector, leaving farms only with normed amounts for sowing and feeding to livestock. From August 1, 1976, it became responsible for supplying the farms regularly with combined fodder, fodder grains and protein-bioconcentrates. Problems still persist in the quality of fodder,<sup>67</sup> its collection, storage, transportation and delivery. In

<sup>66</sup> See RFER, Situation Report No. 20, of July 22, 1976.

<sup>67</sup> In 1975, 400,000 tons of concentrated fodder, or about one-sixth of the total had to be destroyed because of poor quality. See Rabortnichesko Delo, June 9, 1976, quoted in ABSEES No. 4/1976 item No. 317.

addition, farmers were criticised for irrational feeding methods that wasted scarce fodder. In 1976, the plan for fodder production remained unfulfilled and the director of SEA "Grains and Fodder Industry" was relieved of his post.

While average yields for grain and forage crops rose fairly steadily from the Fourth to the Fifth and Sixth Plan Periods, this was less true for technical crops, fruits and vegetables. For these crops, the stagnation or decline of yields from the late 1960's is most marked. These items include many of Bulgaria's major export commodities such as tomatoes, apples, plums and grapes (in the form of both fruit and wine), so the poor production results have had a severe impact on foreign trade. There has also been an impact on domestic consumption. Shortages of fruit and vegetables were noted particularly in 1974, and in 1975, consumption of fruits was 20 percent below the 1970 level. One report lamented that Bulgaria, "the classic country of horticulture", now imported onions, potatoes, cabbages and a number of other vegetables.<sup>68</sup>

Bulgaria has few reserves of agricultural land left. The area of cultivated land is gradually declining and fell by about 3 percent between 1960 and 1974. Over that period, the area of uncultivated meadows and pastures, mainly in the mountain areas was increased by 50 percent, but this too has shown some tendency to decline during the 1970's. Some 22 percent of arable land (or 1.1 million has.) was irrigated in 1974. This figure was about 100,000 has. higher than in 1970 and about 200,000 has. higher than in 1965. The rate of expansion of the irrigated area is to rise in the Seventh Five Year Plan period, and the area should be increased by 200,000 has. by 1980. Much of the present irrigation system is primitive and a further 200,000 has. are to be modernized over the same period.

The average annual decrease in the agricultural labour force was 4.1 percent between 1960 and 1965, 3.9 percent in the next five years and 3.6 percent between 1970 and 1974. This extensive migration from agriculture has resulted in the aging of the agricultural labour force. In 1976, only 9 percent of the agricultural labour force was in the 16 to 25 year age group (compared with 22 percent in industry), and 30 percent were over 55, (compared with 8.6 percent in industry).<sup>69</sup> The authorities are taking measures to raise the quality of those who remain and to encourage them to stay. Particular stress has been placed on raising the status and remuneration of "mechanizers", and most agricultural youth is encouraged to choose this profession. Pensions, wages and retirement conditions have gradually been raised for agricultural workers and peasants. This has virtually eliminated the gap between rural and urban incomes. However, it may be necessary for agricultural remuneration to be higher than that in industry, if the lure of urban life is to be counteracted.

Plowing, harrowing, sowing and the harvesting of wheat and sunflowers have been over 99 percent mechanized. In 1974, corn harvesting was 91 percent mechanized and sugar beet 84 percent. The main areas where basic mechanization still has an important role to play are the cultivation and harvesting of fruit, vegetables and tobacco, and in loading and unloading. Agriculture continues to suffer from an acute

<sup>68</sup> *Rabotnichesko Delo*, February 22, 1974, quoted in ABSEES No. 3/1974 item No. 393.

<sup>69</sup> *Trud*, February 17, 1976, quoted in ABSEES No. 3/1976 item No. 314.

transport shortage, especially during the harvest. In addition, much agricultural machinery is outdated. To combat this, in November 1973, the amortization period for such machinery was shortened. A rather puzzling feature of agriculture in the 1970's has been the reduction in fertilizer application. This fell from about 13.4 kg/da in 1970 to 12.0 kg/da in 1974, despite an increase being provided for in the plan. This was accompanied by increasing production and increasing exports of fertilizer. The current five year plan calls for a doubling of fertilizer application by the end of the decade.

Most agricultural procurement prices have remained unchanged since 1967. Exceptions include prices of meat and milk, which were raised in 1974, and essential oils, which were increased in 1975. Stable procurement prices have been matched by generally rising agricultural production costs.<sup>70</sup> This has squeezed profits and retarded investment in the sector. Changes in the level of production costs are shown in Table 9. On average, these show costs remaining stable between 1960 and 1965, increasing about 15 percent in the next five years and a further 15 percent in the next four years. The main reason seems to have been that increased labour costs were not offset by increases in labour productivity, substantial as that was. This reasoning appears to be supported by the fact that the increased costs have been fastest for the least mechanized lines of production.

TABLE 9.—AGRICULTURAL PRODUCTION COSTS

[1960=100]

	1965	1970	1974
Wheat .....	83.23	131.71	123.47
Barley .....	83.36	121.55	124.57
Corn .....	104.45	84.61	145.72
Sunflower seeds .....	96.55	123.88	134.14
Sugar beets .....	125.22	98.67	117.26
Oriental tobacco .....	96.26	120.39	158.86
Tomatoes .....	97.62	133.17	135.87
Apples .....	124.37	144.14	202.37
Wine grapes .....	64.37	96.79	99.66
Cow's milk .....	110.20	115.89	148.22
Beef .....	118.02	154.40	182.40
Pork .....	107.22	121.44	127.01
Mutton .....	165.26	113.54	129.00
Wool .....	125.91	163.12	200.74
Poultry meat .....	75.01	85.48	83.32
Eggs .....	87.62	72.96	82.88

<sup>70</sup>Source: Ikonomicheski Zhivot, No. 16 of Apr. 14, 1976, quoted by RFER, Situation Report No. 25 of Sept. 8, 1976.

The increases in costs of production have led to a decline in profitability.<sup>71</sup> In 1975 average profitability was estimated at 20 to 22 percent (of capital stock?) which was considered insufficient to ensure normal capital investment.<sup>72</sup> Double this amount is considered to be necessary to provide adequate investment. Another source argues that if agriculture is to grow fast enough to solve the problem of food consumption, it would be necessary to increase the volume of state financed investment.<sup>73</sup> Another approach might be to raise procure-

<sup>70</sup> RFER, Situation Report No. 25 of September 8, 1976.

<sup>71</sup> E. Bailor et al., "Rentabilnost na selskostonpanskoto proizvodstvo," Sofia 1973, quoted in ABSEES, No. 1/1975 item No. 385.

<sup>72</sup> Otchetnost i Kontrol v Selskoto Stopanstvo, No. 7/1975, quoted in ABSEES No. 2/1976, item No. 358.

<sup>73</sup> V. Mishev, Novo Vreme, No. 2/1976, quoted in RFER, Situation Report No. 6 of March 3, 1976.

ment prices sharply, but this would result in a new burden on the state budget if retail food prices are to stay unchanged. It does seem clear, however, that some method of transferring additional resources to agriculture is called for to raise growth rates and so increase exports and meet the food consumption targets.

## 9. AGRICULTURAL ORGANIZATION

Bulgarian agriculture in the early 1970's appears to be a laboratory for experiments in new forms of horizontal and vertical integration. The first Agro-Industrial Complexes (AIC) were created at the end of the 1960's by merging groups of cooperative and state farms with local agricultural processing plants into units averaging 40,000 hectares, and were introduced generally throughout Bulgaria in 1970-71. Experiments have also been made since 1972 in the further vertical integration of agriculture with processing industries. In October 1976, a new form of national management of agriculture, the National Agro-Industrial Complex was introduced. Bulgarian experiments in forms of agricultural organization have been imaginative, and some are being adopted by other socialist countries. Most notable has been the echoing of Bulgarian experiments in Soviet Moldavia and the subsequent decision to increase the degree of horizontal and vertical integration in agriculture throughout the Soviet Union.<sup>74</sup>

The first AICs were created in 1968 in the regions of Vratsa, Mezdra and Ivaylovgrad. AIC Vratsa was formed by uniting seven cooperative farms totalling 38,700 hectares and AIC Mezdra from ten cooperative farms with an area of 31,100 hectares. The financial and technical results of these mergers were considered satisfactory, with the AIC Mezdra showing a large profit compared to previous losses of its constituent farms.<sup>75</sup> Subsequently, the establishment of the AIC as the basic organizational form for Bulgarian agriculture was announced at a Plenum of Central Committee of the BCP in April 1970. AICs were to be the basis for concentration and specialization in agriculture, through first horizontal and then vertical integration, much as State Economic Associations had been made the basic form of industrial organization in 1968. The complete reorganization of agriculture on the basis of the AIC appears to be regarded as a success by the Bulgarian authorities. At a further Party Plenum on agricultural problems held in November 1973, the creation of AICs was held to have been "unconditionally justified"<sup>76</sup> and it was consequently decided to retain it for the future.

The creation of AICs, according to the decisions of the April 1970 Plenum, was to be based on five principles:

- (1) Voluntary adhesion by existing farms.
- (2) Scientific study of the advantages.
- (3) Preservation of some autonomy by member farms.
- (4) Territorial unity.
- (5) Democratic management.

There is some doubt about how operative these principles were in the rapid division of the country into 170 AICs. The speed with which

<sup>74</sup> See A. Giroux: "L'organisation de l'agro-industrie en URSS," *Le Courrier des Pays de l'Est*, July/August 1976, pp. 3-15.

<sup>75</sup> Z. Andreev: "Konzentration in der Bulgarischen Wirtschaft," *Oesterreichische Osthefte* No. 3/1975, pp. 233-244.

<sup>76</sup> RFER, Background Report No. 1 of February 8, 1974.

the reorganization took place casts doubt on the depth of the scientific study that was made in each case. Similarly it may be asked how the principle of voluntary adhesion was reconciled with the need for territorial unity. In the reorganization it appears that the principle of territorial unity was paramount.

The most interesting issue is the question of the degree of autonomy preserved by the constituent state and cooperative farms forming the AICs. Of the 172 AICs existing at the start of 1973, 92 were formed solely from cooperative farms, 16 solely from state farms and 64 from a mixture of state and cooperative farms.<sup>77</sup> The distinction between state and cooperative property has been seen as anachronistic and plans call for their gradual merger into "all-national property." In line with this idea, on January 1, 1972, one AIC (AIC Purvenets, Plovdiv okrüg) dissolved its constituent farms and changed its system of management from a territorial system (i.e., through constituent farms) to a branch system (by type of activity). By early 1973, the constituent farms had abandoned their autonomy in 15 AICs, and by the end of 1975 the total had reached 83. At a Central Committee Plenum in February 1975, a decision on the suspension of the legal and economic independence of the constituent farms was adopted, but the transition to a branch organization was phased over the period 1976-80.<sup>78</sup> There has been some opposition to the dismemberment of cooperative farms, possibly because the members of the richer farms may expect some temporary cut in income as they merge their accounts with weaker farms. One economist pointed out that the transformation from cooperative to "all-national property" was not being accomplished by the "further development or raising of [the former] to a higher level of maturity" but by "simple and direct liquidation." He noted further that in Bulgaria, cooperative property has by no means exhausted all its possibilities and that any attempt to underestimate its significance would be harmful.<sup>79</sup> It seems certain that the differences between state and cooperative property will continue to disappear, although possibly at a slower rate.

As noted, the degree of independence of the constituent farms has varied from AIC to AIC and over time. In the earliest form of AIC, the farm retained full control over the day-to-day production process, with the AIC administration in charge of planning, most capital investment and the provision of certain services. As the constituent farms have been dissolved, the management of production has been placed on a branch basis. For example, on the AIC "Vit" (Pleven okrüg), there are five directorates: livestock, crops, mechanization, the agrochemical center and the economic directorate.<sup>80</sup> Under each directorate come a number of specialized branches in charge of one line of production, for example, grain crops. Below the branch is constituted the brigade, which may have 100 to 200 workers. The brigade operates on the basis of internal cost accounting. Finally the brigade is divided into *zvena* or links, each consisting of 15 to 25 workers.

<sup>77</sup> I. I. Mogan, "Vzaimootnosheniia agrarno-promyshlennykh kompleksov s biudzheto v Bolgarskoj Narodnoj Respublike," *Finansy SSSR*, No. 5/1975, pp. 78-9.

<sup>78</sup> *Pravda*, September 14, 1976.

<sup>79</sup> L. Giulmezov in *Ikonomicheska Misul* No. 3/1975, quoted by RFER, Situation Report No. 5 of February 26, 1976.

<sup>80</sup> *Ekonomicheskaia Gazeta*, No. 51/1976.

The main organ for realizing the fifth principle listed above, democratic management, is the delegate assembly. This normally meets twice a year to hear a report on activity from the management and to discuss the plan for the next period. In addition it approves a two-year mandate for the AIC Council.<sup>81</sup> This consists of elected representatives and the directors of all farms and enterprises within the AIC. It normally meets monthly and appoints an operative bureau to look after day-to-day business. The Chairman of the AIC is appointed by the Council for a two-year term and is responsible to it.

The creation of AICs has been accompanied by various changes in the technology of production. The changes represent the concentration of production into fewer units with a consequent leap in the size of production units and a specialization of activities among farms. Crops are now typically grown in large fields of several square miles and susceptible to mechanized cultivation. The scale of such fields (800-1000 hectares for wheat, 500 hectares for cotton, etc.) is large even by U.S. standards, let alone West European. Similarly, livestock breeding is increasingly concentrated in large units where industrial methods can be introduced. Early in 1976, there were 11 enterprises for fattening calves with 3,000 to 11,000 calves each, 13 broiler farms for chicken meat with several million chickens each, 9 enterprises for eggs with about 100,000 hens each and 18 pig farms with 32,000 to 100,000 pigs each.<sup>82</sup> This increasing scale of production seems to be designed to raise labour productivity rather than the productivity of any other factor.

The specialization between farms is based on a study of natural conditions and optimal crops for each area. Similarly livestock enterprises are located to minimize transport costs either from the fodder supply or to the market. Thus by 1980, 60 percent of the wheat will be grown in 10 of the 28 okrŭgs, 56 percent of the sunflower in 8 okrŭgs and beans will be concentrated in 4 okrŭgs in North East Bulgaria. Similarly, 10 okrŭgs will raise 65 percent of the pigs and 13 okrŭgs 80 percent of the hens.<sup>83</sup> This specialization of farms has both advantages and drawbacks. Since the new larger units are less autarkic than the old smaller ones, a better structure of production can be achieved. On the other hand, the specialized farms may prove inflexible in adapting to climate and market variations.

The creation of AICs and in particular the changes in the organization of production seem to reflect an approach that sees large-scale production as the panacea to the problems of Bulgarian agriculture. It is possible that this is being taken too far. As the scale of fields and livestock breeding enterprises increase, transport costs begin to grow at an increasing rate and start to become the dominant item among production costs. Overcoming this problem requires considerable investment in means of transport and heavy machinery. It would seem more sensible to make the transition to larger units gradually as such equipment becomes available. In the case of livestock breeding, it is far from certain that increasing the scale of production is beneficial. As herd sizes increase, yields fall and the incidence of disease rises. Technological progress can work both ways, and some-

<sup>81</sup> Pravda, September 14, 1976.

<sup>82</sup> RFER, Background Report No. 34 of February 14, 1977.

<sup>83</sup> Rabolnichesko Delo, September 23, 1976.

times can turn a smaller scale of production into the optimum. The thrust in Bulgaria is entirely one way.

This criticism is directed to the agro-technical methods adopted, not to the concept of the AIC itself. In fact, one significant advantage of the AIC is the flexibility with it can choose between various techniques of production. This is because it separates the central management unit from the brigade level production unit. Thus a variety of scales of production are possible at the brigade level, while the management system may remain unchanged. This is in contrast to the farming system in most Western countries where the farmer-owner must combine the functions of manager and organizer of production.

The other side of this advantage is the danger that the management will be too remote from the actual production. The management can only operate efficiently if it receives adequate information and can process it properly. However, in establishing information channels it may clog up the system in bureaucracy and paperwork. An advantage of the AIC in this respect may be, however, that it economizes on relatively scarce administrative talent. Reports have indicated that the creation of AICs has released numbers of administrative personnel for work in direct production.

The AIC provides opportunities for more stable financial relationships. The Bulgarian authorities have considered the possibility of applying a differential rent to cooperative farms to compensate for differences in soil fertility. The creation of larger units which pool funds makes this problem less acute and should lead to some equalization of agricultural incomes. The added financial stability of the farms also facilitates longer term planning.

The establishment of enormous agro-industrial complexes was only the first step in the transformation of the management of Bulgarian agriculture. This step mainly consisted of horizontal integration among farms. The next move has been vertical integration with the processing industry and a variety of forms have been experimented with.

The first stage of the process of vertical integration goes back to 1968 with the fusion of the Ministries of Agriculture and the Food Industry. The early period can be described as one of increasing coordination between the farms and the processors. This coordination was achieved by the increasing use of contracts between the two units. The processing enterprises were allowed to vary premia depending on the quality and dates of deliveries. A step forward in this process of coordination was taken at the start of 1973, when the conditions under which the two parties entered into contracts were equalized in favour of the farms. Previously only the farms were, in practice, subject to sanctions for violating their contracts. At the same time, State Economic Associations in the processing industry became able to finance investments on farms to improve supplies and farms to finance investment in processing enterprises. Contracts have gradually been concluded for longer periods, thus giving each party more assurance about the viability of any investment.

The next step in vertical integration consisted of the merging of a number of agro-industrial complexes and sugar-refining plants into "industrial-agricultural complexes" (IAC).<sup>84</sup> This amalgamation took

<sup>84</sup> RFER, Situation Report No. 28 of November 4, 1976.

place early in 1973 and the constituent farms on the complexes were dissolved. The SEA "Bulgarian Sugar" was rechristened an "Industrial-Agricultural Association" with seven sugar factories and their seven associated IACs under its jurisdiction and a further IAC in charge of seed production. The area of the average IAC is rather larger than that of the average AIC (47,000 hectares as opposed to 24,000 hectares). Agricultural production concentrates on the sugar beet needed by the processing plants, but the beet is grown in rotation with fodder. The fodder, together with by-products from the sugar industry form the basis for cattle breeding on the complexes.

The sugar factories and IACs represent the only examples of this form of organization and must still be described as experimental. The problems that have arisen in the first four years of operation seem to relate more to the industrial side than the agricultural side. In some cases the farms have been obliged to find temporary storage for their harvested beet as the factories failed to provide adequate facilities for contracted deliveries. These difficulties may be only adjustment problems following the adoption of a new management system. Another problem may be inherent in the subordination of the farms to the processing enterprises. This may make the crop structure of the farms much less flexible and, as economic conditions change, allow an inoptimal crop structure to develop.

Another form of vertical integration is the "Scientific-Productional Association" (SPA). These were first established in 1974, on the instructions of the November 1973 Plenum, and were planned for branches of agriculture which have a high degree of specialization and are engaged in mass production, and where international standards can be or have been reached.<sup>85</sup> The first two established in 1974 were for poultry and pig breeding. Three more have since been set up, for cattle and sheep breeding, veterinary medicine and seeds and plants. These SPAs appear to be mainly aimed at industrial methods of production with the rapid introduction of new technology.

Distinct from the Scientific-Productional Associations are the "Scientific-Productional Complexes." The first of these was also set up in 1974 in response to the November 1973 Plenum. This was described as a "scientific-productional viticultural and wine-producing complex" based on the town of Septemvri in Pazardzhik okrüg.<sup>86</sup> It was formed from the Septemvri AIC and parts of neighboring AICs, the Vinprom enterprise in Pazardzhik and a scientific institute in Septemvri. The complex was placed under the control of the SEA "Vinprom." It operates under the same economic regulations as the various sugar IACs mentioned earlier. The main difference between the two forms of organization, however, appears to be that whereas the IACs are based on a processing plant, the Scientific-Productional Complexes are centered on a scientific institute.

In March 1976, four further Scientific-Productional Complexes were established, which came into operation during the course of the year. These included two more viticulture and wine-producing complexes, one for maize production, based on the research institute at Knezha, and one based on Plovdiv for fruit and vegetables. At the start of 1977 a sixth complex was established at Kazanlık for attar of roses, other

<sup>85</sup> RFER, Background Report No. 1 of February 8, 1974.

<sup>86</sup> Dürzhaven Vestnik, No. 25 of March 29, 1974, see RFER, Situation Report No. 12 of May 2, 1974.

essential oils and medicinal plants. A feature of these complexes is that the principle of territorial unity has been abandoned. For example, the fruit and vegetable complex based on Plovdiv was formed from two existing AICs (Novi Krichim and Pürvenets) but with satellite plots on other AICs in Pazardzhik, Khaskovo and Stara Zagora okrúgs. It incorporates local canning factories and a number of scientific institutes. It is intended that the complex will gradually expand to include all cultivation, processing and marketing of fruit and vegetables in Bulgarian Thrace (i.e. South Eastern Bulgaria).<sup>87</sup> It is possible that this form of complex presages the reorganization of agriculture on the basis of specialized regional complexes with a patchwork of fields. However, such speculation is probably premature.

The final form of vertical integration to be discussed here is the series of experiments in Silistra okrúg. In March 1974, it was announced that the six AICs in the Silistra okrúg had been merged into one AIC and one IAC.<sup>88</sup> The autonomy of the constituent state and cooperative farms was abolished. The Silistra AIC was put in control of all grain and livestock production in the okrúg, while the IAC controlled fruit and vegetable growing and processing. From the start of 1976, the AIC and IAC were merged into one enormous AIC extending over the entire okrúg,<sup>89</sup> covering 170,000 hectares (590 square miles) and employing 19,000 people. The Bulgarian authorities are attracting foreign technology to help develop the complex and raise production by a factor of three over the next ten years.<sup>90</sup> Contracts have been signed with U.S. and Danish companies.

At the top of the agricultural hierarchy in Bulgaria comes the National Agro-Industrial Complex, which was set up in August 1976. The organization of national economic complexes has been described above. Its imminent creation was announced in December 1972, but a number of problems appear to have delayed it. One problem may have been the organizational capacity of the Ministry of Agriculture and the Food Industry to exercise detailed control over a sector producing 29 percent of national income, 32 percent of exports and 45 percent of goods on the domestic market. As finally established, the National Agro-Industrial Complex has 200 autonomous organizations including 13 State Economic Associations, 5 Scientific Production Associations, Scientific Production Complexes, 144 Agro-Industrial Complexes, Agricultural Departments in each of the 28 okrúg administrations, agricultural institutes, research units, colleges and newspapers. As yet, little can be said about how the complex can be made to function as a unit. Another reason for the delay in its establishment may have been a dispute about its extent. For foodstuffs and drinks, the complex covers the entire production cycle from the soil to the consumer. For most technical crops, the processing industries are outside the complex. At one time, there was a proposal to include all suppliers of agricultural inputs in the complex, such as producers of agricultural machinery and agricultural chemicals. In practice, most of these were left outside, except for the

<sup>87</sup> RFER, Situation Report No. 2 of January 21, 1977.

<sup>88</sup> Dürzhaven Vestnik, No. 28 of April 9, 1974.

<sup>89</sup> The creation of a complex covering an entire okrúg is reminiscent of an incident during the Bulgarian Great Leap Forward. On December 7, 1958, Rabotnichesko Delo announced that the whole of Botevgrad okrúg had been turned into one huge collective farm, to be known as "Botevgradska komuna." This was the nearest Bulgaria got to forming Chinese-type communes, and the report was denied the next day. See J. F. Brown, *op. cit.*, p. 88.

<sup>90</sup> D. Lascelles, "Merging Agriculture With Industry," *Financial Times*, March 2, 1976.

organization for repairing agricultural machinery and for the supply of agro-chemical services.

Bulgaria in the 1970's remains the scene of a variety of exceptionally interesting experiments in agricultural organization. Two motives seem to lie behind this experimentation. The first is the aim to increase the rate of application of modern technology to agriculture and then bring yields and productivity up to the best levels in the world.<sup>91</sup> The second is to improve the coordination between the various economic agents. It is an open question whether organizational changes will be adequate to improve the relations between the farm, the suppliers of its inputs and the processors of its output. Bulgaria is relying on such changes and a system of contracts and planned deliveries to solve a problem which is usually solved by the market in Western economies. The problem of coordinating fodder supply with livestock breeding seems a case when the establishment of a market might be a solution.

The ideological framework of Bulgarian agriculture is the same as in the other East European countries (except Poland and Yugoslavia). The Bulgarian authorities are displaying high degree of imagination within that framework to the solution of common problems. Some of the experiments in agricultural integration have already been successful and others look promising. Thus it can be expected that considerable use may be made of Bulgarian experience in the remaining CMEA countries over the next few years.

#### 10. PERSONAL PLOTS

In their efforts to revive flagging agricultural production, the Bulgarian authorities have launched a major effort to encourage production on personal plots. While these plots have generally been supported by the central authorities since the late 1950's, local authorities have often hindered the development of their full potential for both ideological reasons and because of conflicts between the demands of the socialized and private sectors. A campaign to encourage the "all-round utilization" and development of personal plots was launched with Decree No. 61 of the Council of Ministers of November 13, 1973.<sup>92</sup>

The area of personal plots was laid down in 1957 and confirmed in the Model Cooperative Farm Statute of 1967. Plots can be up to 0.2 hectare in intensively cultivated areas and up to 0.5 hectare in grain

<sup>91</sup> In the table below Bulgarian yields for some major crops are expressed as a percentage of the yields of some of the most efficient producers in the world and within the CMEA.

[In percent]

	1970-73 (world)	1971-73 (CMEA)
Wheat.....	73 (Denmark)	85 (GDR).
Corn.....	70 (Austria)	98 (Czechoslovakia).
Sunflower.....	86 (Italy)	Highest.
Cotton.....	38 (Greece)	41 (U.S.S.R.).
Sugar beet.....	69 (Belgium)	Highest.
Tomatoes.....	24 (Netherlands)	Highest.

Sources: Statisticheski Godishnik, 1975 and Statisticheski ezhegodnik stran-chlenov SEV, 1974.

<sup>92</sup> RFER, Background Report No. 1, Jan. 3, 1974.

regions. In mountain regions an additional 0.5 hectare of land unsuitable for mechanical cultivation can also be allocated. Plots are permanent to encourage the farmer to invest in improvements and they may be cultivated collectively. Restrictions on the numbers of livestock that may be held privately were lifted in 1971. Income from private plots is officially treated as labour income<sup>93</sup> and thus not subject to the sanctions and taxes levied on speculative and unearned income.

Evidence of continued official support of personal plots is contained in a letter of 1975 from Todor Zhivkov to all Party committees, where he states that it is "not a question of revising our general line in the sphere of agrarian policy", but one "of skillfully making use of different forms of production and of all sources for increasing rural production".<sup>94</sup> Efforts have also been made to overcome any ideological scruples connected with such farming. One article in the Party monthly<sup>95</sup> argued that the cultivation of personal plots was merely another form of socialist production, since the farmer cannot hire labour, work is done according to a plan and plots are controlled by the agro-industrial complex, the land cannot be inherited or leased and the plots do not provide the basic source of income for their cultivator.

In 1973 personal plots accounted for 12.8 percent of arable land, 9 percent farmed by collective farm members and 3.8 percent by workers and employees. Of their area, 10.4 percent was under orchards and 7.4 percent under natural pastures, rather higher shares than for the socialized sector. Of their sown area, 80.1 percent was under fodder crops and 11.8 percent under vegetables and potatoes. Yields for most of the important fodder and vegetable crops were somewhat below those for the socialized sector. This is accounted for by the more marginal nature of the land involved and the lower level of inputs, these factors being only partially compensated by the more intensive application of labour. At the start of 1974, personal plots accounted for 19.3 percent of Bulgaria's cattle (26.1 percent of milch cows), 84.4 percent of buffaloes, 20.1 percent of pigs, 38.7 percent of sheep, 98.7 percent of goats, 45.0 percent of poultry and 81.2 percent of bees. 31.9 percent of all meat was purchased from the private sector, 22.1 percent of all milk and 48.6 percent of eggs. Production of milk and eggs per animal in the private sector was about half that of the socialized sector.

The above figures clearly show the importance of the personal plots in Bulgarian agriculture as a whole and in particular in livestock production. The low yields of milk (1020 litres of milk per milch cow in the private sector as against 2699 litres in the socialized sector) and of eggs (86 per layer as against 188) indicate the potential for raising production in this sector. The low yields are attributable to the inadequate supplies of fodder and the unimproved breeds in the private sector. The performance of personal plots in 1973 was poor,<sup>96</sup> with the numbers of livestock reduced (especially pigs and sheep) and the volume of deliveries of animal products down. In addition,

<sup>93</sup> RFER, Background Report No. 32 of November 21, 1975.

<sup>94</sup> P. Starnov, *Rabotnicheskoe Delo*, Nov. 11, 1975, quoted in *ibid.*

<sup>95</sup> *Partien Zhivot*, No. 10/1974, quoted in ABSEES No. 1/1975 item No. 342.

<sup>96</sup> *Ibid.* and *Rabotnicheskoe Delo*, Nov. 2, 1973 quoted in ABSEES No. 2/1974 item No. 416.

excessive zeal in closing small orchards and vegetable gardens in an effort to concentrate production resulted in a shortage of fruits and vegetables in 1973.<sup>97</sup> This decline in production was the main reason for Decree No. 61 of November 13, 1973 which increased assistance and improved work conditions on personal plots, and called for the elimination of economic and administrative obstacles to the development of production on the plots.

Under the Decree, the main responsibility for the central control of personal plots has been assumed by the Central Cooperative Union (CCU). This organization is responsible for supplying inputs to the plots and for purchasing their output. Previously, farmers might produce livestock products and fodder under contract to SĖA "Rodopa" and fruit and vegetables for the use of the farmer's family only. Under the Decree, they are encouraged to expand production of other products for sale under contract to the CCU. Contracts are to contain reciprocal obligations, the CCU being required to supply certain inputs and the farmer to sell a certain volume of produce. Okrŭg councils are encouraged to draw up plans with detailed provisions for production, purchasing and marketing on personal plots.<sup>98</sup> In addition to these administrative measures, steps to increase the supply of inputs and to raise incentives may be noted.

The Decree provides for the amount of land made available for personal plots to be increased. Plots no longer used should be worked again and land made available to people (mainly retired people) if they enter into contracts to supply agricultural products to state procurement organizations.<sup>99</sup> For each cow or buffalo cow on a personal plot, the local agrŏ-industrial complex will make available 0.1 hectare of land sown with alfalfa. Local councils are to decide on sowing low productivity land with fodder and attaching these to personal plots. In addition, for 1974, the CCU agreed to make 250,000 tonnes of fodder available to the private sector on a contractual basis in exchange for livestock.<sup>1</sup> Shepherds and herdsmen are to be paid by the state and their services made available to private farmers for a small fee. The CCU and local councils are committed to establishing more purchasing and reception points for the production of personal plots, especially in the more remote areas. Poor organization of the procurement of such products was believed to have been a major hindrance to the development of production in the past.<sup>2</sup> From the start of 1974, loans of up to 2,000 leva have been made available to private farmers at 3 percent for five years for the purchase of animals, the construction or repair of byres and stables and other projects connected with livestock breeding.<sup>3</sup> Providing the loans are connected with livestock breeding, the farmer may obtain two or more loans. Other measures include efforts to improve breeds on personal plots, assistance in planting orchards and vegetable gardens and the procurement of animals by the CCU from the socialized sector and their resale at subsidized prices to the private sector for fattening.

<sup>97</sup> RFER, Background Report No. 12 of May 2, 1974.

<sup>98</sup> Rabortnichesko Delo, Jan. 6, 1974, quoted in ABSEES No. 2/1974 item No. 418.

<sup>99</sup> Zhivotnovŭdstvo No. 8/1974, quoted in ABSEES No. 1/1975 item No. 343.

<sup>1</sup> Planovo Stopanstvo No. 1/1974 quoted in ABSEES No. 3/1974 item No. 391.

<sup>2</sup> Zhivotnovŭdstvo, op. cit.

<sup>3</sup> Kooperativno Selo, Jan. 29, 1974, quoted in ABSEES No. 3/1974 item No. 396.

The first incentive introduced to encourage the development of production on personal plots was an increase in procurement prices and premia for deliveries of fruits, vegetables and animal products by private farmers to the levels enjoyed by the socialized sector. Income tax on income from sales to state procurement organizations was waived from January 1, 1974. Farmers signing contracts to deliver animals and animal products also became eligible for pensions, with deliveries of 1,500 leva or more being equivalent to one year's work.<sup>4</sup> Such deliveries must be from the farmer's personal plot and he must have put in at least 100 days work on the state or cooperative farm during the year to be eligible for the pension. Time spent breeding animals is considered to be "socially useful labour" time.

The 1974 Plan called for 510,000 pigs, 20,000 cows, 20,000 calves and 264,000 sheep to be fattened on personal plots under contract with the CCU.<sup>5</sup> Over a two year period, the number of pigs on such plots was to rise by 500,000, that of cows by 150,000, of poultry by 4 million and of sheep by 1.5 million.<sup>6</sup> In the event, the number of cattle on personal plots rose by 33,000 in 1974 and that of pigs by 480,000. The number of sheep fell by 41,000 and the number of poultry rose by only 31,000. Procurement of meat from personal plots was to rise 73 percent in 1974, that of milk by 50 percent, of eggs by 12 percent and fruit and vegetables by 24 percent. At the end of 1975,<sup>7</sup> it was announced that meat production on these plots had risen three times and milk production two-and-a-half times over the previous two years. 1975 procurement plans from personal plots were also announced as having been considerably overfulfilled.<sup>8</sup> Against a meat target of 73,600 tons, 112,000 tons were purchased, for milk 105,000 tons against 76,000 tons and for vegetables 375,000 tons, 2,000 more than planned.

While the potential for increasing production from personal plots is considerable, it entails certain problems. The new battery of incentives introduced by Decree No. 61 of November 13, 1973 has encouraged speculative activity of a type not wished by the framers of the decree.<sup>9</sup> For example, a number of workers, teachers and employees appear to have left their jobs to set up farms of 200 to 300 pigs, 10 cows or several thousand poultry. Groups of citizens have formed livestock cooperatives with hired herdsmen. Machinery and fodder belonging to agro-industrial complexes are being used by private farmers without payment.<sup>10</sup> Pigs have been sold by cooperative farms to the CCU at 2.50 leva per kilogram. The CCU has sold the pigs to private farmers at 1.50 leva per kilogram, and the latter have sold them back to the cooperative farms. Thus the private farmers and cooperative farms have made 1.00 leva per kilogram without the pig having moved.

While such abuses are upsetting to local officials, it appears that the central authorities do not consider that they vitiate the program

<sup>4</sup> Compare the average income on a cooperative farm in 1972 of 1,213 leva. See RFER, Background Report No. 34 of October 31, 1974.

<sup>5</sup> RFER, Background Report No. 8 of March 26, 1974.

<sup>6</sup> Rabotnichesko Delo, February 16, 1974, quoted in ABSEES No. 3/1974, item No. 401.

<sup>7</sup> Rabotnichesko Delo, November 15, 1975, quoted in ABSEES No. 2/1976 item No. 359.

<sup>8</sup> Rabotnichesko Delo, February 1, 1976, quoted in ABSEES No. 3/1976 item No. 315.

<sup>9</sup> P. Stamov, Rabotnichesko Delo, November 11, 1975, quoted in RFER, Background Report No. 32 of November 21, 1975.

<sup>10</sup> Dunavska Pravda, May 22, 1975 quoted in ABSEES No. 4/1975 item No. 341.

of increasing production on personal plots. It will not be possible to evaluate the success of the program until full production data for 1975 are available. In no year, unfortunately, are comprehensive data published for procurement from the private sector. At the start of 1976,<sup>11</sup> D. Minchev, the deputy president of the CCU announced that purchases from personal plots during the Seventh Five Year Plan Period (1976-80) would be much greater than in previous years. He pointed to a number of difficulties still to be overcome, principal among which were shortages of fodder, of abattoirs, of transport and of cold storage facilities.

## 11. THE STANDARD OF LIVING

At the Central Committee Plenum of December 1972, a program to raise the standard of living of the population in the period 1973-80 was announced. The adoption of such a programme represented a commitment by the authorities to treat consumption as a goal rather than a residual. A similar policy was also adopted by some of the other socialist countries in the early 1970's. To some extent the new policy reflected a changed attitude to economic causation. Whereas previously it had been argued that increases in production were a precondition for increases in consumption, this argument was turned around and higher consumption levels were seen as necessary for increased labour productivity. Some additional factors may be noted in this connection. The need for increased consumption as a basis for higher labour productivity reflects the switch from extensive to intensive growth. With intensive growth, the quality of the labor force becomes more important, and a higher standard of living is probably a precondition for a higher quality labour force. In addition, a policy of producing tomorrow the jam consumed today depends on being able to finance the gap with resources from abroad. Conveniently, Western capital markets opened up as this policy was adopted.

As has been shown, consumption did rise very fast in Bulgaria during the first half of the 1970's. It outpaced production and its growth rate was clearly unsustainable. In January 1976, another Central Committee Plenum approved "Theses on the Further Fulfillment of the December Program to Raise the Standard of Living of the Population During the Seventh Five Year Plan Period and up to 1990." These were discussed at the XI Party Congress and adopted. They showed little change in direction from the December 1972 Program, but some slowing down in growth rates of the standard of living in the period up to 1980. While the growth in the standard of living remains formally the major objective of the authorities, the need to restore balance in the domestic economy will probably have higher priority in the first years of the Seventh Five Year Plan Period.

In his speech to the December 1972 Plenum, Zhivkov established a number of consumption targets for 1975 and 1980.<sup>12</sup> For food consumption these targets were based on "scientifically calculated norms." For other goods and services the norms were described as "rational." The establishment of such targets represented a new departure for planning in Bulgaria, since it clearly laid down objectives, rather than

<sup>11</sup> *Rabotnichesko Delo*, February 1, 1976, quoted in ABSEES No. 3/1976 item No. 315.

<sup>12</sup> See T. Zhivkov: "Za posledovatelno izpúlnenie resheniata na desetitia kongres na BKP za povishavane zhiznenoto ravnishte na naroda," Sofia, 1972.

aiming at raising current levels indiscriminately. The figures in Table 10 show that in 1970, consumption in Bulgaria was about 70 percent of the norm for most foodstuffs and about 40 percent for a number of industrial goods. The program called for the level of foodstuff consumption in 1975 to be brought up to about 80 percent of the norm and for industrial goods to about 55 percent. In fact, the food target was underfulfilled (73 percent of the norm) but the industrial goods target was overfulfilled (about 60 percent of the norm). In 1972 the food target for 1980 was set at about 99 percent of the norm, but at the XI Congress the figure was reduced to about 90 percent. For non-food goods the 1980 target was originally placed at about 82 percent of the norm and then revised downwards slightly. The difficulties in achieving the targets for food consumption reflect the problems of the agricultural sector.

TABLE 10.—CONSUMPTION OF VARIOUS FOOD AND NONFOOD ITEMS

Product	Unit of measure	Scientific norm	Actual figure for 1970	December 1972 Plenum figure for 1975	Actual figure for 1975	December 1972 Plenum figure for 1980	1976 Theses figures for 1980
Meat and meat products.....	Kilograms per capita.....	80	41.4	55.0	57.0	75	70.0
Fresh and canned fish.....	do.....	10	5.5	8.0	6.2	10	8.0
Milk.....	Liters per capita.....	260	152.1	196.0	174.0	250	220.0
Eggs.....	Per capita.....	265	122.0	159.0	145.0	250	200.0
Flour.....	Kilograms per capita.....	100	170.6	182.0	157.0	150	150.0
Vegetable oils.....	do.....	13	12.5	13.9	13.8	14	14.0
Sugar and sugar products.....	do.....	32	32.9	37.0	34.0	36	36.0
Vegetables.....	do.....	180	88.9	136.0	94.0	160	150.0
Fruit.....	do.....	200	148.2	179.0	118.0	200	190.0
Cotton fabrics.....	Meters per capita.....	36	22.2	24.7	26.5	33	30.0
Woolen fabrics.....	do.....	7	3.8	4.7	4.9	6	6.0
Shoes.....	Pairs per capita.....	4	1.7	2.1	2.1	3	2.2
Radio sets.....	Per 100 families.....	130	100.8	104.0	106.9	100	130.0
TV sets.....	do.....	105	42.0	53.0	60.3	80	80.0
Washing machines.....	do.....	70	50.0	50.0	50.0	60	65.0
Refrigerators.....	do.....	100	29.0	59.0	61.0	90	90.0
Automobiles.....	do.....	40	6.0	13.5	16.0	30	26.0

Sources: The December 1972 program; the Theses on the Standard of Living, 1976; RFER, Background Report No 59 of Mar. 11, 1976, corrected.

Another aspect of the standard of living that was tackled at the December 1972 Plenum was the question of wages. The minimum wage was raised from 65 to 80 leva a month in 1973 and is planned to reach 90 leva a month by 1980. The increase in the minimum wage reduced the differential between average and minimum wages from 2:1 in 1972 to 1.74:1 in 1973. This is considered too low a ratio, and so during the Seventh Plan period the authorities intend to increase average wages to 170 leva and thus restore the ratio to 1.89:1. New wage scales are to be introduced which will emphasize uniformity across branches of the economy, overcome "uravniovka" (levelling), encourage workers to improve their qualifications and give more importance to the basic wage. This latter was expected to rise from 65 percent of total earnings in 1971 to 80 percent in 1975.<sup>13</sup> Other targets are to reduce the gap between agricultural and non-agricultural incomes and increase earnings from personal plots.

<sup>13</sup> A. Evgeniev: "The Rise in Living Standards in Bulgaria: Some Problems," International Labour Review, July 1974.

The Bulgarian authorities have been concerned to increase the birth rate. One side of this policy has been to make the termination of pregnancy more difficult but the other has been the establishment of positive incentives for increased births. The policy has been to encourage the births of second and third children in particular and to discourage further children. This policy is reflected in the cash grants paid at children's births which were raised in 1975 to 100 leva for the first child, 250 leva for the second, 500 leva for the third and 100 leva again for the fourth and subsequent children. Similarly, in 1973, the period of maternity leave was lengthened, but with second and third children favored. Apart from these benefits related to the birth itself, the thrust of policy is that eventually the State will take over all financial costs related to bringing up the next generation. Thus economic considerations should cease to play a role in determining family size. The 1976 Theses on the Standard of Living aim to achieve this by 1990.

Between 1956 and 1971 the normal work week remained unchanged at 46 hours spread over six days.<sup>14</sup> One of the achievements of the Sixth Plan has been the introduction of a general five-day 42½ hour week. This transition was announced in Zhivkov's speech to the December 1972 Plenum. It was the subject of a Decree issued in March 1973 calling for its gradual introduction between 1973 and 1975, for all workers except those employed in agriculture, health and education. In 1971 only 10 percent of the working population were on the 42½ hour five-day week,<sup>15</sup> this having been introduced experimentally in two okrŭgs. By December 1, 1973 about 40 percent of the working population were on this system, and by March 1, 1974 about 60 percent<sup>16</sup> in twenty out of twenty-eight okrŭgs. There was then a hiatus in the transition and in Sofia a temporary return to the six day week, especially in the retail trade sector.<sup>17</sup> By May 1, 1975, some 65 percent of the working population were on the five day week.<sup>18</sup> The transition of all workers outside the sectors mentioned above was originally scheduled for 1975<sup>19</sup> but actually too, place on July 1, 1976.<sup>20</sup> At the December 1972 Plenum, it was hoped to establish a 40 hour week by 1980, but this target has been abandoned in the January 1976 Theses.<sup>21</sup>

## 12. FOREIGN TRADE

Bulgaria's balance of payments during the 1960's was characterized by a substantial trade deficit in most years. This deficit was particularly marked in 1963-64, when Bulgaria imported much equipment on credit from the U.S.S.R. for the Kremikovtzi metallurgical plant, and in 1966-68, when Bulgaria imported much equipment from Western Europe on credit for projects connected with the Fifth Five Year Plan. In 1965, between these periods, the deficit was almost reduced to zero, and in 1969 Bulgaria ran a trade surplus. On invisible account, Bulgaria is probably in substantial surplus, as its earnings

<sup>14</sup> See "Bolgarskaia piatidnevka," *Ekonomicheskaja Gazeta*, No. 33/1975.

<sup>15</sup> *Ibid.*

<sup>16</sup> *Rabotnichesko Delo*, March 30, 1974, quoted in ABSEES No. 3/1974 item No. 438.

<sup>17</sup> RFER, Situation Report No. 5 of February 21, 1974.

<sup>18</sup> *Otechestven Front*, April 20, 1975 quoted in ABSEES No. 4/1975 item No. 397.

<sup>19</sup> See Evgeniev, *op. cit.*

<sup>20</sup> *Rabotnichesko Delo*, July 1, 1976, quoted in ABSEES No. 4/1976 item No. 339.

<sup>21</sup> RFER, Background Report No. 59 of March 11, 1976.

from tourism should outweigh interest payments on loans and net transport and insurance payments. The invisible surplus has not normally offset the trade deficit, so Bulgaria was a substantial capital importer during much of the 1960's, as befits a developing country.

By 1970, repayments on a number of loans contracted from the U.S.S.R. in the early 1960's fell due, probably causing some bunching in debt service. In addition, it is probable that the U.S.S.R. lent Bulgaria shorter term convertible currency to repay some of its borrowing from the West in 1966-68.<sup>22</sup> Thus Bulgaria entered the 1970's with a need to run a current account surplus for a few years to meet debt service payments. As Table 11 shows, a (record) trade surplus of 202.2 million valuta leva was achieved in 1970. As the 1970's progressed, domestic consumption rose faster than domestic production. This led to the erosion of the trade surplus, although the current account probably remained in much larger surplus. The easing of conditions on Western capital markets allowed Bulgaria to borrow heavily and its suppliers to offer favorable credit terms. The rate of import picked up especially from mid-1973 and in 1974 and 1975 record trade deficits were recorded. By mid-1975, the alarming rate of borrowing led the authorities to cut back on imports, especially from the industrial West. This reduction, together with a substantial increase in exports, served to cut the 1976 trade deficit to less than a third of the previous year's level. For the rest of the 1970's, it may be necessary to continue to run a trade surplus in order to service the debt accumulated and to fulfill the CMEA plan for investments in raw material sources in the U.S.S.R.<sup>23</sup>

TABLE 11.—FOREIGN TRADE INDICATORS

	1960	1965	1970	1971	1972	1973	1974	1975	1976
<b>Value (in millions of valuta leva):</b>									
Exports.....	668.6	1,375.7	2,344.5	2,553.3	2,837.0	3,200.7	3,720.8	4,541.4	5,201.7
Imports.....	740.1	1,377.9	2,142.3	2,479.9	2,772.2	3,171.7	4,195.8	5,235.6	5,399.2
Balance.....	-71.5	-2.2	202.2	73.4	64.8	29.0	-475.0	-694.2	-197.5
<b>Volume (1960=100):</b>									
Exports.....	100.0	205.5	371.4	401.2	447.5	490.7	531.5	597.2	NA
Imports.....	100.0	189.4	300.5	340.3	385.8	426.9	520.3	586.0	NA
<b>Prices (1960=100):</b>									
Exports.....	100.0	100.1	94.4	95.2	94.8	97.6	104.7	113.8	NA
Imports.....	100.0	98.3	96.3	98.5	97.1	100.4	108.9	120.7	NA
Terms of trade.....	100.0	101.8	98.0	96.6	97.6	97.2	96.1	94.3	NA

Sources: Statisticheski Godishniki, 1973 and 1975 Statisticheski Izvestiia, November 1976, and Plan Fulfillment Reports.

The growth rate of export volume has undergone a secular decline over the last 15 years. This decline corresponds to the gradual decline in growth rates of national income and the lower rates of agricultural growth since 1967. In the Fourth Plan Period (1961-65), the annual growth rate of exports was 15.5 per cent, in the next five years 12.6 per cent and in the period 1971-75, 10.0 per cent. During the 1960's, imports grew more slowly than exports, but in the 1970's the reverse has been true. In the Sixth Plan Period the average growth rate of import volume has been 14.3 per cent, and in 1974 the growth rate reached 21.9 percent.

<sup>22</sup> See section 13, below.

<sup>23</sup> It was reported that Bulgaria invested 90.3 million leva in the U.S.S.R. in 1975 and a further 277.2 million were planned for 1976. Journal of Commerce, March 31, 1976.

The large share of Bulgarian trade conducted with other members of the CMEA has prevented sharp movements in foreign trade prices. The increases in world prices of raw materials and world inflation in general had a small effect on import and export prices in 1973 and a larger one in 1974. In 1975, the changed CMEA prices had an effect. The commodity structure of Bulgaria's trade has meant that the effects of the price changes on the terms of trade have been smaller than for many other countries. The decline in the terms of trade was only 1.1 per cent in 1974 and 1.9 per cent in 1975. Over the period 1970-75, the decline has been 3.8 per cent.

Among the CMEA countries, only Mongolia conducts a higher share of its trade with other CMEA members than does Bulgaria. This fidelity is particularly striking in terms of the share of the U.S.S.R., which normally accounts for over 50 per cent of both exports and imports. The Bulgarian authorities consider integration in the socialist bloc and, in particular, integration in the U.S.S.R. as essential for the Bulgarian economy. In any case, the integration has reached such a high level that it would prove painful for Bulgaria to disentangle itself. Its industry has been created either to satisfy domestic needs or in planned complementarity with other East European or Soviet industries, and would find it prohibitively difficult to compete on open world markets. In the U.S.S.R. it has an assured supply of the raw materials lacking at home, and it can pay for these with otherwise unsaleable products. Bulgaria's economic dependence on the U.S.S.R. is thus particularly great. If the raw material flow from the U.S.S.R. were restricted, the domestic economy would not be able to sell enough in the West to pay for alternative supplies. This dependence has furthermore been increasing with time.

TABLE 12.—DIRECTION OF TRADE

	[In percent]									
	1960	1965	1970	1971	1972	1973	1974	1975	1976	
<b>Exports:</b>										
Socialist countries.....	84.0	79.4	79.3	79.5	80.6	79.4	76.0	80.0	80.2	
CMEA.....	80.9	75.8	75.8	75.8	78.1	77.3	72.9	77.5	-----	
U.S.S.R.....	53.8	52.2	53.8	54.8	56.3	54.7	50.3	55.5	-----	
East Germany.....	9.8	9.2	8.7	8.6	7.7	8.3	7.6	-----	-----	
Czechoslovakia.....	9.6	7.8	4.4	4.6	4.8	4.1	4.0	-----	-----	
Poland.....	3.6	3.4	3.9	3.2	4.1	5.4	4.9	-----	-----	
Nonsocialist countries.....	16.0	20.6	20.7	20.5	19.4	20.6	24.0	20.0	19.8	
Developed capitalist countries..	12.5	15.9	14.2	13.8	13.1	13.4	11.7	9.4	-----	
West Germany.....	3.3	3.5	2.6	2.3	2.6	2.8	2.5	-----	-----	
Italy.....	1.6	3.3	2.8	2.8	2.9	3.0	2.1	-----	-----	
Austria.....	2.0	1.1	.8	1.0	.9	.8	.9	-----	-----	
Developing countries.....	3.5	4.7	6.5	6.7	6.3	7.2	12.3	10.6	-----	
Total.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
<b>Imports:</b>										
Socialist countries.....	83.9	74.2	76.2	77.5	79.8	79.2	70.1	72.3	77.2	
CMEA.....	80.4	70.3	73.0	74.3	78.1	77.1	67.8	70.8	-----	
U.S.S.R.....	52.5	50.0	52.2	52.3	52.2	51.9	43.6	51.3	-----	
East Germany.....	11.1	7.2	8.6	8.6	9.8	8.8	9.1	-----	-----	
Czechoslovakia.....	9.8	6.5	5.3	6.1	6.3	5.8	4.0	-----	-----	
Poland.....	3.4	3.9	3.5	3.5	4.3	4.7	5.1	-----	-----	
Nonsocialist countries.....	16.1	25.8	23.8	22.5	20.2	20.8	29.9	27.7	22.8	
Developed capitalist countries..	13.7	22.3	19.1	16.8	15.0	15.8	22.5	23.5	-----	
West Germany.....	5.9	5.8	2.7	2.8	3.3	4.4	6.9	-----	-----	
Italy.....	1.1	2.8	3.1	2.9	2.6	2.2	2.4	-----	-----	
Austria.....	1.5	2.6	2.0	1.9	1.2	1.5	2.0	-----	-----	
Developing countries.....	2.4	3.5	4.7	5.7	5.2	5.0	7.4	4.2	-----	
Total.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	

Sources: Statisticheski Godishniki, 1973 and 1975, Statisticheski Izvestia, November 1976, Plan Fulfillment Reports, Le Courier des Pays de l'Est, November 1976.

TABLE 13.—REGIONAL TRADE SURPLUSES OR DEFICITS

	[In millions of valuta leva]								
	1960-64 <sup>1</sup>	1965-69 <sup>1</sup>	1970	1971	1972	1973	1974	1975	1976 <sup>2</sup>
U.S.S.R.....	-28.5	-17.5	143.8	102.7	148.9	104.7	41.2	-165.4	} 5.3
Other socialist countries.....	-11.5	-9.8	83.1	4.6	-72.6	-72.3	-155.8	15.2	
Developed capitalist countries.....	-20.6	-68.8	-75.8	-66.0	-44.7	-74.9	-509.9	-810.3	
Developing countries.....			51.1	32.1	33.2	71.5	149.5	266.3	-202.8
Total.....	-60.5	-96.1	202.2	73.4	64.8	29.0	-475.0	-694.2	-197.5

<sup>1</sup> Annual average.

<sup>2</sup> Sources: Statisticheski Godishniki, various issues, Plan Fulfillment Reports and GATT, International Trade, 1975-76; 1975 and 1976 estimated.

By and large, it can be said that Bulgarian machinery and equipment and industrial consumer goods are marketable only within the CMEA. The other groups shown in Table 14 are probably competitive in the West. Of Bulgaria's exports to the West, about 80 per cent consist of food and agricultural raw materials, minerals, and metals, and only 7 per cent of machinery and equipment.<sup>24</sup> Unfortunately, as a result of the industrialization strategy, it is the production of the former group that is growing more rapidly. Competitive goods, particularly those of agricultural origin, are subject to supply constraints and are falling as a share of total exports. Table 15 shows the virtual stagnation of real exports of agricultural origin during the 1970's. The difficulty of finding competitive industrial goods to export for convertible currency probably explains the increase in fertilizer exports in 1973-75, at the expense of reduced domestic consumption.

TABLE 14.—STRUCTURE OF EXPORTS AND IMPORTS

	[In millions of valuta leva]							
	1960	1965	1970	1971	1972	1973	1974	1975
<b>Exports:</b>								
1. Machinery and equipment.....	86.4	341.3	679.4	778.8	975.7	1,244.2	1,484.2	1,847.4
2. Fuels, minerals and metals.....	61.7	104.2	190.4	194.2	236.8	263.0	365.4	353.7
3. Chemicals and rubber.....	14.8	30.2	80.1	87.2	82.3	103.3	232.2	258.6
4. Building materials.....	3.7	22.2	24.9	23.6	28.0	28.0	36.8	47.2
5. Agricultural raw materials (nonfood).....	38.7	65.1	89.4	106.1	108.4	109.2	96.5	101.8
6. Live animals.....	0	0	.5	.9	1.3	.5	.4	1.6
7. Agricultural raw materials (food).....	131.7	205.9	197.3	212.3	229.3	216.9	188.1	272.5
8. Foodstuffs.....	205.5	415.1	731.1	791.9	807.7	836.8	904.4	1,155.7
9. Industrial consumer goods.....	119.8	187.1	344.4	344.1	350.6	380.0	389.1	468.9
10. Productive operations.....	5.3	4.6	7.0	14.2	16.9	18.8	23.7	34.0
Total.....	668.6	1,375.7	2,344.5	2,553.3	2,837.0	3,200.7	3,720.8	4,541.4
<b>Imports:</b>								
1. Machinery and equipment.....	324.8	603.0	869.3	1,064.4	1,267.9	1,397.0	1,707.2	2,164.0
2. Fuels, minerals and metals.....	179.9	367.5	622.8	706.5	753.2	896.3	1,207.3	1,755.2
3. Chemicals and rubber.....	48.3	83.7	152.8	170.4	198.1	213.3	301.8	292.2
4. Building materials.....	6.7	13.0	17.3	22.7	27.2	29.1	29.5	38.0
5. Agricultural raw materials (nonfood).....	85.0	139.0	220.1	230.4	245.8	273.9	336.9	343.8
6. Live animals.....	.8	.9	.8	1.0	1.3	4.5	7.6	6.5
7. Agricultural raw materials (food).....	17.8	63.4	68.6	80.9	52.1	94.5	201.6	226.4
8. Foodstuffs.....	20.3	35.1	52.7	48.9	38.5	56.7	119.7	94.6
9. Industrial consumer goods.....	56.5	70.7	121.9	142.3	165.7	179.5	249.2	267.9
10. Productive operations.....		1.6	6.0	12.4	17.4	26.9	35.0	47.0
Total.....	740.1	1,377.9	2,142.3	2,479.9	2,772.2	3,171.7	4,195.8	5,235.6

Source: Statisticheski Godishniki, 1973 and 1975, Statisticheski Izvestiia, November 1976.

<sup>24</sup> L.A.D. Dellin, "The Bulgarian Economy and its Foreign Trade," unpublished, Washington, D.C., 1975, p. 60.

TABLE 15.—EXPORTS BY SECTORAL ORIGIN

	1960	1965	1970	1971	1972	1973	1974
Value (In millions of valuta leva):							
1. Nonagricultural.....	172.6	539.2	1,124.6	1,244.7	1,510.7	1,847.2	2,345.9
2. Agricultural.....	496.0	836.5	1,219.9	1,308.6	1,326.3	1,353.5	1,374.9
Of which: Processed.....	(390.2)	(655.1)	(1,015.0)	(1,085.8)	(1,086.0)	(1,136.4)	(1,199.8)
Unprocessed.....	(105.8)	(181.4)	(204.9)	(222.8)	(240.3)	(217.1)	(175.1)
Volume (1960=100):							
1. Nonagricultural.....	100.0	212.2	c. 420.0	c. 420.0	c. 490.0	c. 560.0	c. 590.0
2. Processed agricultural.....	100.0	167.3	272.1	283.0	284.7	288.9	293.3
3. Unprocessed agricultural.....	100.0	162.2	173.9	188.5	187.6	140.1	103.5

Source: Statisticheski Godishniki, 1973 and 1975.

In 1970, 29.0 per cent of Bulgarian exports consisted of machinery and equipment. By 1975 this figure had risen to 40.7 per cent and the Plan for 1980 is 50 per cent. These shares are extremely high for a country with such a low per capita income as Bulgaria. In fact, the 1975 share was higher than for any other CMEA country except East Germany and Czechoslovakia. This is made possible by the enthusiastic participation of Bulgaria in intra-CEMA specialization. In 1971, some 37 per cent of Bulgaria's machinery exports consisted of such specialized production<sup>25</sup> and over the period 1971-74, between 7.3 per cent and 8.0 per cent of the total output of the machine building industry was specialized and coordinated with production in other socialist countries.<sup>26</sup> At the center of this specialization is SEA "Balkankar" which produces forklift trucks, lifting gear, cranes, hoists and batteries. This enterprise exports over three-quarters of its production, and 70 per cent of its output goes to the socialist countries. It alone accounts for 11 per cent of Bulgarian exports.<sup>27</sup> The second specialty is agricultural machinery and the third electronic calculators. Bulgaria also exports ships under specialization agreements.

Probably more important than CEMA specialization agreements are bilateral agreements with the U.S.S.R. Thus, for example, Bulgaria constructs components for the Soviet automobile and computer industries.<sup>28</sup> The Bulgarian authorities see a considerable future in producing components for Soviet enterprises under subcontract. To this end, the Bulgarian and Soviet Five Year and annual plans have been coordinated and integrated. Such integration allows Bulgaria to produce items in very large production runs for a protected market. These economies of scale, it is hoped, will significantly lower costs of production and allow an increased rate of economic growth. "Bulgaria and the Soviet Union," according to Todov Zhivkov "will act as a single body which breathes through the same lungs and is nourished by the same bloodstream."<sup>29</sup> How far this integration will be pursued remains an open question.

While traditional forms of trade account for the vast bulk of Bulgaria's trade with the West, the Bulgarian authorities set store by the deepening of other types of commercial relations. While they are keen to develop joint ventures and other forms of industrial and

<sup>25</sup> P. Gramatikov, *Rabotnicheskoto Delo*, December 4, 1971, quoted in V. Ivanova "Niakoi vüprosi na sotsialisticheskata ikonomicheska integratsiia," *Vüshna Türgovliia*, No.4/1973.

<sup>26</sup> P. Dosev, *Statistika*, No.1/1976, quoted in ABSEES Nov.4/1976 item no.325.

<sup>27</sup> "Skizzen aus Bulgariens Aussenwirtschaft," *Neue, Zürcher Zeitung*, September 12, 1974.

<sup>28</sup> *Vneshnaia Torgovliia*, No.9/1974.

<sup>29</sup> *Rabotnicheskoto Delo*, September 20, 1973, quoted in RFER, Background Report, No.4 of May 20, 1974.

economic cooperation with Western firms, they have been rather more cautious and less accommodating than some other CEMA countries. By the end of September 1975, Bulgaria had long-term economic, industrial and technical agreements in force with some sixteen West European countries. These framework agreements were supplemented in 1974 by a Decree Regulating Foreign Economic Cooperation<sup>30</sup> and by the establishment of a Committee on Foreign Economic Relations in August 1974.<sup>31</sup> At the start of 1974, when some eight long-term cooperation agreements had been signed with industrial countries, it was estimated that only 2 to 3 per cent of Bulgaria's exports to the countries involved were based on such agreements.<sup>32</sup> However, the Bulgarian authorities believe that these agreements have considerable potential in attracting a continuous flow of up-to-date technology, in utilizing the marketing ability of the Western partner and in mobilizing medium-term capital inflows which involve relatively painless amortization through buy-back provisions. In view of the advantages of such deals to the Bulgarian authorities, imports to Bulgaria covered by these arrangements may prove more resistant than normal commercial imports, should a policy of retrenchment of imports from the West be adopted.

The Bulgarian authorities have remained adamant that industrial cooperation ventures with foreign parties within Bulgaria be based on contractual rights and obligations and exclude any foreign ownership or joint stock company. While Western businessmen often seek the same form of equity participation in joint ventures in centrally planned economies that they have in market economies, it seems unlikely that such participation in a country with Bulgaria's economic and social system offers any additional protection to the investor than does a carefully drawn-up contract. The Decree provides that in such cooperation agreements, the foreign partner is assured of his share in the profits (or more strictly speaking, economic effect) of the venture in proportion to his contribution.

In addition, the Bulgarian authorities commit themselves to ensure that such ventures are allocated necessary material and labour resources, either in the annual plan or, if the plan has already been adopted, from reserves. The Decree specifies that "payments between the parties are made totally or in part in goods and services mutually supplied or in means obtained from the fulfillment of the agreement". It is thus the intention that as far as possible the agreements should not cause any burden on the balance of payments, but should themselves generate the means needed to repay the foreign partner.

The areas that the Bulgarians see as having the the most potential for industrial cooperation are:<sup>33</sup>

1. Machine building and metallurgy:
  - (a) Improvement of conventional metal-cutting machines.
  - (b) Mechanical handling equipment.
  - (c) Agricultural and food machinery industry.

<sup>30</sup> Decree No.1196 of June 12, 1974 see D. Karastoyanov: "Industrial Cooperation of Bulgaria with Countries having Different Economic and Social Systems." UNCTAD/TSC/23, GE75-52184 of December 9, 1975.

<sup>31</sup> See RFER, Background Report No. 25 of August 22, 1974.

<sup>32</sup> M. Daskalov in *Novo Vreme* No. 1/74, quoted in RFER, Background Report No. 4 of February 7, 1974.

<sup>33</sup> Karastoyanov, *op. cit.*

2. Electronics and electrical engineering:
  - (a) Integral circuits in the production of computers.
  - (b) Automation of processes in the electronic and electrical engineering industries.
  - (c) Industrial electrical engineering.
  - (d) Large capacity equipment for energy production.
  - (e) Radio electronics and household appliances.
3. Chemical industry:
  - (a) Oil-processing and petrochemical industry.
  - (b) Synthetics for the light, chemical and pharmaceutical industries.
  - (c) Cellulose and paper industry.
  - (d) Mineral fertilizers and agricultural chemicals.
4. Light industry:
  - (a) Expansion of production of basic consumer goods.
  - (b) Improvement of technological level of the branch.
  - (c) Rationalized use of raw materials.
5. Agriculture:
  - (a) Setting agriculture on an industrial basis.
  - (b) Establishment of optimal size and technical structure of units.
  - (c) Introduction of new methods.
6. Other:
  - (a) Rationalization of construction.
  - (b) Modernization of communication.
  - (c) Development of tourism.

It is clear that the types of economic cooperation agreements favoured by the Bulgarian authorities are of a long-term nature and are such that the Western partner can not expect to generate rapid profits. The idea that a joint venture in a socialized country is a means of penetrating the market of that country is not fully valid. There may arise considerable problems from sales within Bulgaria since the profits generated from such sales are strongly dependent on the severely distorted domestic price structure. Even when profits have been generated on the domestic Bulgarian market, the question of remittances arises. While these problems may be dealt with in framing the contract setting up the venture, they indicate that such ventures are more likely to be successful from the point of view of the Western partner if production is directed towards exports. One intriguing possibility is that joint ventures in Bulgaria might be a means by which Western companies can achieve significant sales on the Soviet market. It will be noted that many of the areas listed above, in which Bulgaria wishes to encourage cooperation ventures, are in these sectors which Bulgaria has been assigned under the CMEA specialization agreements. The specialization agreements provide an assured market in the other socialist countries and it might be possible for a Western firm to expand its economic contacts, in particular with the Soviet Union, by investing in a joint venture in Bulgaria.

### 13. DEBT

At the end of 1970, Bulgaria's gross debt to the West was probably about \$500 million. The greater part of this debt consisted of supplier's credits contracted in the period 1964-67. The remainder was

in the form of unpublicized bank-to-bank borrowings.<sup>34</sup> Bulgaria's first venture on the syndicated Eurodollar credit market took place in 1972 when it borrowed \$25 million. Borrowing became much heavier in 1973, with publicized Eurocurrency borrowings reaching \$115 million and large credit lines being made available by foreign suppliers. By the end of 1973 Bulgaria's gross indebtedness was estimated to have reached \$1.0 billion.<sup>35</sup> At the end of subsequent years, the debt was estimated to have reached \$1.7 billion for 1974 and \$2.4 billion for 1975.<sup>36</sup> During 1976, the growth rate was probably somewhat less and the end year total may have been about \$2.9 billion.<sup>37</sup>

Bulgaria's indebtedness is fairly large for a country of its size. At the end of 1975 it probably represented about 13 percent of GNP. Since only about 20 percent of Bulgaria's exports to go to non-socialist countries, the ratio of debt to such exports is extremely high—3.2 times as much in 1975.<sup>38</sup> This figure is the highest for any CMEA member country. At a rate of 6 percent, annual interest on a debt of \$2.4 billion comes to \$150 million, which compares with 1975 exports to non-socialist countries of \$940 million. Despite this, Bulgaria's credit rating remains good. Both major Eurocurrency borrowings in 1976 were oversubscribed;<sup>39</sup> and interest rate spreads above LIBOR are rather worse than for the German Democratic Republic, but better than for Poland.

The reasonable credit rating can be attributed to two factors. Firstly, a high percentage of its exports to both East and West consists of hard goods. While it has had problems with the EEC's Common Agricultural Policy, it normally would have little difficulty in selling on Western markets exports diverted from the CMEA. Secondly, the Soviet Union is believed to stand behind Bulgaria's debt to a greater degree than for that of most other CMEA members. According to Rae of Lloyds Bank, Bulgaria "is so closely identified with the Soviet Union that any Bulgarian borrowing is considered a USSR risk."<sup>40</sup>

TABLE 16.—BULGARIA'S DEBT

(In millions of dollars)

	1972	1973	1974	1975	1976
Gross debt at end of year.....	NA	1,000	1,700	2,400	2,900
Of which liabilities to West European banks.....	NA	800	1,098	1,600	1,973
Change in gross debt.....	NA	NA	700	700	500
Of which change in liabilities to banks.....	NA	NA	298	502	373
Publicized Eurocurrency borrowings.....	25	115	160	141	240
Trade deficit with industrial countries.....	79	128	445	722	497

Source: Gross debt: Chase Manhattan Bank and text. Liabilities to West European banks: Table 17. Publicized Euro currency borrowings: Table 17. Trade deficit with industrial countries: IMF, Direction of Trade (partner country statistics)

<sup>34</sup> E. Snell in his article "Eastern Europe's Trade and Payment with the Industrial West" in the JEC Compendium, 1974 pp.6 90-3 estimates the end-1970 debt at \$700 million. This is probably an overestimate since Snell underestimates tourist earnings in calculating the current account balance and ignores convertible currency assistance from the USSR. For a very low estimate of end-1971 debt see E. K. Keefe, "Area Handbook for Bulgaria," Washington, D.C. 1974.

<sup>35</sup> L. J. Brinard: "The Outlook for East-West Trade Credit" Euromoney, July 1975. But see also Snell, op. cit. p.690 for an Austrian estimate of \$1.5 billion.

<sup>36</sup> Chase Manhattan Bank.

<sup>37</sup> Nova Makedonija (February 25, 1977) puts the end 1976 debt at \$3 billion, while the Albanians (Zeri i Popullit, March 12, 1977) put debt to the USSR at \$3.21 billion and to the West at \$1.5 billion.

<sup>38</sup> Chase Manhattan Bank.

<sup>39</sup> The loan of \$100 million was raised to \$120 million and that of \$75 million in September was increased to \$100 million.

<sup>40</sup> Quoted by J. Dornberg: "Financing the Communist Countries". Institutional Investor, July 1976, pp. 52-3.

TABLE 17.—BULGARIA: EUROMARKET ACTIVITY

[In millions of dollars]

	Assets		Liabilities		Net liabilities
<b>1. Assets and liabilities in West European banks:</b>					
End December 1973	200		800		600
End December 1974	253		1,098		845
End March 1975	266		1,296		1,030
End June 1975	222		1,396		1,174
End September 1975	133		1,477		1,344
End December 1975	282		1,600		1,318
End March 1976	245		1,682		1,437
End June 1976	224		1,786		1,562
End September 1976	304		1,906		1,602
End December 1976	355		1,973		1,618
	1972	1973	1974	1975	1976
<b>2. Publicized Eurocurrency borrowings:</b>					
January to March		15	85	50	140
April to June		30		16	
July to September	25	70		55	
October to December					100
Total (including unallocated)	25	115	160	141	240

## Sources:

1. BIS figures include the external positions of banks in Belgium, France, Germany, Italy, Luxembourg, Netherlands, Sweden, and the United Kingdom. End December 1973 figures are estimated from data in "Le Courier des Pays de l'Est," December 1975.

2. IBRD. "Borrowings in International Capital Markets," various issues.

From past experience, this confidence is not misplaced. On at least two occasions in the last twenty years, the USSR is reported to have helped Bulgaria overcome debt-servicing problems. The first occasion was during the Great Leap Forward of 1958-60<sup>41</sup> and the second was in 1967-8.<sup>42</sup> This hard currency assistance was in addition to the normal credits granted Bulgaria by the USSR. In 1976, rumors of further Soviet hard currency aid to Bulgaria have been reported.<sup>43</sup>

On the two previous occasions when Bulgaria suffered debt-servicing difficulties, the problems were caused by excessive suppliers' credits. During the 1970's, Bulgaria has increasingly made use of direct bank-to-bank borrowing. The proportion of its debt held by West European banks is second only to Hungary among the CMEA countries. The Bulgarian authorities are trying to follow the Hungarian policy of raising money directly from banks in order to allow their importers to pay cash.<sup>44</sup> This is believed to be more advantageous, since the additional cost of such credit is more than compensated by the lower cash price. Another result of this policy is the relatively small volume a Bulgarian "à forfait" paper available for discount in Western Europe. Estimates towards the end of 1976 were that only about \$300 million of such paper was being held, compared with \$800 million for Czechoslovakia, \$1,500 million for the German Democratic Republic, \$1,000 million for Romania and \$2,200 million for Poland.<sup>45</sup>

Almost half of Bulgaria's trade deficit in the years 1973-1976 was accounted for by trade with West Germany. The German authorities

<sup>41</sup> See N.S. Khrushchev, "Khrushchev Remember, The Last Testament," Boston, 1974, p.277.

<sup>42</sup> Joint Economic Committee, 91st Congress, "A Foreign Economic Policy for the 1970's" Washington, 1971, p. 1259.

<sup>43</sup> R. Ensor and J. F. Ghilès, "CMEA debts may be \$45 billion, but the loans have kept flowing". Euro-money, Jan. 1977 p.29.

<sup>44</sup> See "Financing Deals with E.E., Part X: Bulgaria and Albania", Business Eastern Europe, November 12, 1976 and "Aussenverschuldung und Zahlungsmoral der Sozialistischen Länder," Neue Zürcher Zeitung, July 10, 1976.

<sup>45</sup> "A Forfait Trends" East West Markets, November 15, 1976.

have published their current account balance with Bulgaria showing a net (German) surplus of DM100 million in 1973, DM500 million in 1974 and DM700 million in 1975.<sup>46</sup> These surpluses were covered by German suppliers' credits, money borrowed from German banks and Eurodollar borrowings. A Bulgarian request for a \$250 million subsidized credit from West Germany was turned down in mid-1975.<sup>47</sup> Other countries have been more forthcoming about credit lines. In June 1974, Mitsui and Compay and twelve other Japanese firms granted a credit of \$100 million at 6.5 percent, in addition to two Eurocurrency credits of \$50 million total from other Japanese banks. In February 1976, it was reported that Japan expected to extend \$200 million credit to Bulgaria for the purchase of Japanese goods between April 1976 and March 1978.<sup>48</sup> In May 1975, Austria granted Bulgaria a credit of \$120 million for use in the period 1976-80.<sup>49</sup> In September 1976 the United Kingdom granted a credit of £80 million similar to previous Italian and French credits. In addition to these suppliers' credits, Bulgaria has also received credits of \$150 million and \$160 million from Iran in 1973 and 1976.<sup>50</sup>

For 1975 the German Bundesbank reported the net extension by German banks of DM320 million in short-term credit to Bulgaria.<sup>51</sup> This represented a new departure for Bulgarian borrowing and it has persisted in 1976. Market sources believe that the Bulgarian bankers are trying to gain expertise in the short end of the market.<sup>52</sup> Since the Eurocurrency market was fairly liquid in 1976, there were favourable opportunities for such short-term borrowings.

The information on Bulgaria's convertible currency debt is quite insufficient to predict future debt servicing problems. In particular, little is known about the time profile of repayments. Bulgaria's publicized Eurocurrency borrowings have been similar to Hungary's. The repayment schedule for the latter shows a bulge in payments around 1980<sup>53</sup> and it is probable that Bulgaria's repayments do so too. Next to nothing, however, is known about the profile of the remaining debt. What can be said, though, is that Bulgaria can have little access to credits of maturity, over say, 15 years and most of its borrowings are likely to be in the four to seven year range. This means it will soon become necessary to refinance existing debt. This may be difficult if the volume of debt continues to rise or the capital markets become much less liquid. The signs are that since mid-1975, the Bulgarian authorities have made efforts to reduce the demand for new credits. However, the volume of credit to be refinanced in any case is such that Bulgarian prosperity is now dependent to some extent on the cooperativeness of Western capital markets.

<sup>46</sup> "Die Zahlungsbilanz der Bundesrepublik gegenüber den Staatshandelsländer", Monatsberichte der Deutschen Bundesbank, Juli 1976.

<sup>47</sup> Situation Report No. 18 of June 26, 1975 and No. 33 of December 4, 1975.

<sup>48</sup> Business International, Eastern Europe Report, February 13, 1976.

<sup>49</sup> A. Zwass, "Kredite im Ost-West Handel", Girozentrale Quartalshefte No. 4/1975.

<sup>50</sup> Reuters East-West Trade News, December 15, 1976.

<sup>51</sup> Monatsberichte der Deutschen Bundesbank, loc. cit.

<sup>52</sup> RFER, Situation Report No. 1 of January 13, 1977.

<sup>53</sup> Euromoney, January 1977 p. 17.

# CZECHOSLOVAK ECONOMY IN THE SEVENTIES\*

BY VACLAV HOLESOVSKY\*\*

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Commenting on the human-rights "Charter 1977," Dr. Jiří Hájek, former Czechoslovak Minister of Foreign Affairs, now a dissident, warned in January 1977 against expecting a re-enactment of the year 1968. Historian by training, he chose, in the interview with an American reporter, to lean on the history-does-not-repeat-itself adage.<sup>1</sup>

However, a survey of recent economic developments in Czechoslovakia suggests that the nothing-new-under-the-sun view of history also deserves a hearing. A certain number of elements in the economic situation, factual as well as symptomatic, have surfaced over the last two or three years, bearing a remarkable similarity to the early sixties, a period of stress and crisis which ushered into the economic-reform movement. It is conceivable that these elements might lead to a revival of economic reformism. It is even conceivable that they might recombine with other elements of change in the spiritual climate and morale of the country, replacements in political personnel, and events abroad, so that a new variation on the 1968 pattern cannot be entirely excluded. The purpose of the present survey is to provide such general prognostication and speculation with an informative survey sketched from the side of economic analysis.

Similarities with the economic past concern primarily the sequence of a series of "good years," years of stable growth in total output as well as in civilian consumption, followed by the necessity to adjust internal economic structure and performance to external shocks. The two phases of this sequence have their accompaniment in official and unofficial attitudes toward the economic system. While it was possible to live with its dysfunctional features as long as the external environment followed a predictable course, they have become a matter of concern when it was once more realized that they represented a serious extra obstacle to swift and successful adjustment.

This interdependence between economic events on the one hand and concern with the economic system on the other needs to be pointed out at the outset since, in the formal organization of the study, the two aspects are treated more or less separately. To keep in line with the internal logic of the two-phase sequence and the interdependence

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<sup>1</sup> The New York Times, January 20, 1977.

between events and systemic concerns, we devote the first two parts to the "event side" of recent developments, and the third part to the systemic and institutional aspects. The fourth part concludes with a brief consideration of prospects for the nearest future.

## I. ECONOMIC PERFORMANCE

It has become more and more customary among economists analyzing the Czechoslovak economy in the West to use official statistical data without cautioning the readers as to their significance in regard to index coverage, weighting of components, and adjustments for price and quality changes. Scholars have been increasingly willing to go along with the assumption that official statistics have become trustworthy enough to deserve being presented without warning. The first observation that needs to be made here is that a reliable statistical picture of the overall economic performance of Czechoslovakia is still not readily available. Thus, whenever we have no choice and do use official data, we do so on an as-if basis, lending somewhat greater credence to the direction of change, or changes in the rate of change, rather than to numerical values as such.

### 1. Growth Performance, 1970-1975

In recent years, economic research in Czechoslovakia started to prepare estimates of national income and product aggregates cast in terms of Western concepts. These are used for purposes of comparative analysis.<sup>2</sup> Officially, global performance continues to be measured in terms of traditional Soviet concepts of "social product" (which aggregates intermediate and final uses of output, hence contains duplications besides replacements of depreciated fixed capital) and "national income" (which omits, just as the "social product" does, value added in the service sector).<sup>3</sup> Alternative estimates, based on accepted Western aggregation methodology and Czechoslovak specific time series concerning quantitative output data, are available from the Research Project on National Income in East Central Europe (Thad P. Alton, director), and are referred to below as the "Alton data." The two sets of statistics are presented side by side in Table 1, together with implicit data on year-to-year changes in labor productivity and crude estimates of incremental capital/output ratios.

The informative value of the two sets of data can be roughly gauged if one considers the following points. As a rule, if official data are meant to be used as approximations of the growth of GNP they must be seen as an overstatement because of the omission, in their coverage, of the usually slow-growing service sector. Another overstatement may be due to impurities in price weights, their constancy being undermined by prices of new products reflecting to an undetermined extent an inflationary movement.<sup>4</sup> There is also a possible upward bias in statistical reporting. In the category of circumstantial evidence, one might question the plausibility of high and sustained year-

<sup>2</sup> Cf., e.g., Josef Goldman, "Makroekonomická analýz a praegnóza," Prague, Academia, 1975, p. 55, 57; "Politická ekonomie, 1975," No. 10, p. 43.

<sup>3</sup> See U.S. Congress, "Reorientation and Commercial Relations of the Economies of Eastern Europe," Washington, 1974, pp. 253-254.

<sup>4</sup> Prices of investment articles have been reported to grow 8 percent annually, and in 1976 were double or triple of their 1964 level. ("Hospodářské noviny, 1976," No. 38.)

TABLE 1.—CZECHOSLOVAKIA: GROWTH PERFORMANCE IN 1970-76

[Selected data, year-to-year changes in percent]

	1971	1972	1973	1974	1975	1976
OFFICIAL DATA						
1. Social product (in constant prices).....	5.8	6.2	5.4	5.4	5.7	-----
2. National income (in constant prices).....	5.5	5.7	5.2	5.8	6.2	-----
3. Employment in the "productive sphere".....	.9	.7	1.0	1.2	.7	-----
4. Employment, total.....	.6	.8	.9	.7	.4	-----
5. Stock of fixed capital in the productive sphere.....	5.3	5.2	5.9	5.8	6.6	-----
6. Stock of fixed capital, total.....	4.9	4.8	5.5	5.6	6.1	-----
ALTON DATA						
7. Gross national product.....	3.5	3.6	3.3	3.7	2.6	1.9
PRODUCTIVITY OF FACTORS						
8. Labor productivity implied by 2. and 3.....	4.5	4.9	4.1	4.8	5.5	-----
9. Labor productivity implied by 7. and 4.....	2.4	2.6	2.2	2.3	1.4	-----
10. Incremental capital output ratio implied by 2. and 5.....	.96	1.10	.88	1.00	.94	-----
11. Incremental capital output ratio implied by 6. and 7.....	1.40	1.33	1.67	1.51	2.35	-----

Sources: "Statistická ročenka, 1976," pp. 76, 108, 155, 158, and 212. Thad P. Alton, preliminary communication.

to-year changes in labor productivity ranging, according to official data, between 4 and 5.5 percent p.a. When achieved by market-capitalist countries, e.g., by West Germany, France, Austria, or Japan, such productivity gains have hardly ever been accompanied by complaints about efficiency and competitiveness in export markets, which have been loud and sustained in the case of Czechoslovakia.

The Alton data, on the other hand, may contain elements of understatement, mainly because of their reliance on the published, and therefore incomplete and possibly unrepresentative, sample of quantitative series of industrial output. In other words, in the case of some fast growing series, which the Alton index does not register, the secrecy motive may be stronger than the impulse to boast. This hypothesis, suggested by George Staller, the author of industrial indexes in the Alton publications, seems to find support in the curious divergence in the rate of change shown by the two sources in 1975. While Alton's data indicate a slowdown in the rate of growth, official data show an acceleration. As we shall see, this is also the year of increasingly frequent references to the importance of unspecified priority outputs.<sup>5</sup>

Within industry, by far the fastest growing branches were those of chemicals and machinery construction. These grew, according to official sources, by 61 and 50 percent from 1970 to 1975, whereas industry as a whole grew by 38 percent only.<sup>6</sup> Besides industry, two

<sup>5</sup> Unfortunately for the cited hypothesis, the respective indexes of industrial output do not show parallel divergence: there is increase in the year-to-year change in the official and in the Alton index. Only in 1976 does Alton's index register a slowdown, but the official index was not published in time for comparison. The complete series of the industrial output indexes are as follows (1970=100):

	1971	1972	1973	1974	1975	1976
Official.....	106.7	114.0	121.8	129.0	138.0	-----
Year-to-year change (percent).....	6.7	6.8	6.8	6.0	6.9	-----
Alton.....	102.9	107.3	111.6	115.6	120.3	124.3
Year-to-year change (percent).....	2.9	4.2	3.9	3.6	4.0	3.3

Source: "Statistická ročenka, 1976," p. 232; Alton Project, preliminary communication.

<sup>6</sup> "Statistická ročenka, 1976," p. 232.

other economic sectors deserve special mention. Construction increased its output at least as much as industry, if not somewhat more. Agricultural output in 1975 was 8 percent higher than in 1970 and 27.2 percent higher than in 1965 (Alton data), a performance which brought Czechoslovakia nearer to desired selfsufficiency with respect to a number of food items. The performance of agriculture and construction finds its reflection in the development of living standards.

## 2. Personal Civilian Consumption and Living Levels

Personal consumption has also been on the increase over the period under consideration, although it grew more slowly than total output, in conformity with the Soviet-type pattern. Lacking alternative estimates with respect to consumption, we are using only official data as indicators of developments (see Table 2). In the period immediately following the 1969 authoritarian restoration, the decision was made to block in one blow inflationary pressures that had developed in the course of the first two years of the economic reform 1967-68, and were reinforced, from the supply side, by a slump in growth rates of GNP (from 4.3 and 4.5 percent in 1967 and 1968 down to 1.8, 2.2, and 3.5 percent in 1969-1971, according to Alton data). Hence the limited sales and other consumption spending in 1970.

TABLE 2.—CZECHOSLOVAKIA: PERSONAL CONSUMPTION INDICATORS, 1966-75

[Year-to-year changes in percent]

	1967	1968	1969	1970	1971	1972	1973	1974	1975
1. Personal consumption in constant prices.....	7.3	10.7	6.6	1.2	5.2	4.6	5.2	6.5	2.3
2. Personal consumption per capita....	6.8	10.3	6.2	1.7	4.8	4.0	4.5	5.6	1.9
3. Retail sales (real volume).....				1.2	5.5	6.0	5.8	7.5	2.8
4. Average money wages.....			7.4	3.0	3.7	4.1	3.3	3.3	3.2
5. Gross money incomes.....	7.4	11.9	11.4	4.6	5.5	6.0	6.4	4.6	3.7
6. Money expenditures (includes income taxes).....	6.7	12.5	12.4	4.6	5.5	6.0	6.4	4.6	3.7

Source: "Statisticka' ročenka, 1976," pp. 22-23 122, and 412.

After that, the regime started to pay attention again to personal consumption, even at the cost of a transitory increase in foreign indebtedness. This concern tended to be interpreted by the population in a cynical spirit as part of measures pursuing political stabilization. It has continued to be perceived in that sense, as witness the eloquent comments of the Czech writer Václav Havel in his open letter to the Premier:

By nailing a man's whole attention to the floor of his mere consumer interests, it is hoped to render him incapable of appreciating the ever-increasing degree of his spiritual, political and moral degradation. Reducing him to a simple vessel for the ideals of a primitive consumer society is supposed to turn him into pliable material for complex manipulation.<sup>7</sup>

The decline in the rate of growth of personal consumption in 1975, coming after four "good years," is one of the symptoms of difficulties related to worsened terms of trade and other economic shocks to be discussed in Part II.

<sup>7</sup> "Encounter, 45," No. 3 (September 1975), p. 18.

One of the noteworthy structural features of changing income distribution has been the higher-than-average growth of per capita incomes of the farm population. This was a continuation of the long-term trend of progressive rural-urban equalization. This trend has been the result of a deliberate policy, accentuated in the years 1963-67, after it was realized that the rural exodus into industry was endangering the very maintenance of hitherto attained levels of agricultural production. From 1966 to 1971, net wages in industry increased 4.1 percent annually on the average, while net compensation of collective farmers rose by 8.6 percent annually.<sup>8</sup> Preferential development in agriculture has continued since then to the point where statistics show average incomes (including income in kind) of collective farmers to have reached, by 1973, parity with white-collar incomes, where the public is convinced that the highest standard of living today exists in the village, and the government begins to be concerned about inflationary effects of farm incomes, and their power of attraction which might lead, at least theoretically, to a reverse mobility of labor into agriculture.<sup>9</sup>

The improvement in living standards of the rural households is reflected also in the structure of their spending and rate of acquisition of consumer durables. The composition of cash spending of collective farm households changed, in the course of recent ten years, as follows (in percent):

	1963	1974
Food and drinks.....	33.6	26.7
Manufactured articles.....	31.3	36.4
Services.....	9.2	9.6
Saving deposits.....	13.8	16.1
Other.....	12.1	11.2

Source: "Plánované hospodárství, 1976," No. 5, p. 42.

The proportion of households owning various types of consumer durables, while generally increasing, has increased relatively faster in villages than in towns, and in households of collective farmers faster than in those of workers and white-collar employees, contributing to a growing homogeneity of life styles. For a selected number of durable assets, the proportion of households owning them has changed as follows:

Households	Collective farmers		Workers		White-collar employees	
	1967	1973	1967	1973	1967	1973
Items:						
Refrigerator.....	40.0	79.5	45.7	81.3	66.1	93.0
Vacuum cleaner.....	28.7	57.2	48.0	68.0	74.8	85.2
Automobile.....	10.2	29.5	10.4	23.1	21.6	41.1
Television set.....	55.8	91.0	73.1	91.2	82.4	95.6
Tape recorder.....	3.1	13.3	4.9	16.8	7.4	26.7

Source: "Plánované hospodárství, 1976," No. 5, p. 45.

<sup>8</sup> "Plánované hospodárství, 1975," No. 7, p. 39.

<sup>9</sup> *Ibid.*, pp. 42-45.

This is, without exaggeration, a most remarkable development in the pattern of living standards, that has surely contributed indirectly to improving the performance of the agricultural sectors.

Another area of considerable achievement has been housing construction. In the late 'sixties, the housing deficit amounted, according to official estimates, to some 500,000 dwelling units. In 1971-1975, the number of newly constructed dwelling units was almost 614,000,<sup>10</sup> enough to accommodate practically all households—about 11 percent of their total—who had been forced to double up in single apartments at the beginning of the decade. Thus, the traditionally depressing analyses of the housing situation might finally have been made obsolete or, putting it more cautiously, the housing shortage made substantially less acute.<sup>11</sup>

The doubtless improvement in measurable material living standards seems to have had a corollary in more flexible responses of supply to demand in retail trade, or at least with an increased concern for customers' satisfaction. The relative saturation of basic demand can be gauged from the fact that consumers could afford to be choosier and indulge in a certain amount of fickle fashion demand, particularly with respect to shoes, textiles, household equipment, etc. Retail trade organization did apparently succeed in anticipating certain major structural changes in demand in placing orders with the production sector ahead of time, especially in the category of furniture and items of infant and child care.<sup>12</sup> Imports were resorted to in order to satisfy demand for radio sets and exotic fruit. The weakest spot in the food category has remained domestic fruit and fresh vegetables. Among manufactured articles, increasing shortages have developed in bicycles, tape recorders, and sewing and washing machines,<sup>13</sup> possibly in connection with reordered priorities in metal-using branches of manufacturing, to be discussed below. The choice of articles in special distribution centers catering to the "upper 200 families," the inconspicuously labelled "Supply Service" ("Dodávková služba"), operating out of sight of the population is known to have been more than adequate.

As for the comparison of living levels in Czechoslovakia with those in other CMEA countries, it is generally recognized that they have been recently at par, or slightly behind those in the German Democratic Republic which count as being the highest. Comparison with the West is frequently undertaken by choosing Austria which seems to be the most natural candidate for comparison. Czechoslovak living levels are certainly the lower ones, but it is difficult to say with precision by how much lower. A Czechoslovak study, undertaken in the mid-sixties, arrived at the conclusion that, in 1960, real wages in Austria and Czechoslovakia were almost identical, while by 1965

<sup>10</sup> "Hospodářské noviny, 1976," No. 15, p. 9.

<sup>11</sup> Cf. the discussion of the housing situation up to 1971-1972 in Jan Adam, "Housing Policy in European Socialist Countries: The Czechoslovak experience," in Franz-Lothar Altmann, ed., "Jahrbuch der Wirtschaft Osteuropas," vol. 6, Günter Olzog Verlag, Munich, 1975, pp. 231-251.

<sup>12</sup> This reflected an extraordinary increase in birth rates, in raised financial assistance to large families and young couples (in 1973), and expanded personal loans to newlyweds (by 35.4 percent in 1973). See "Plánované hospodářství, 1976", No. 10, p. 26.

<sup>13</sup> For a detailed survey of developments in retail trade see "Plánované hospodářství, 1976", No. 10, pp. 25-33.

Austria was 12 percent ahead.<sup>14</sup> This is not entirely consistent with another study of comparative levels of living in Czechoslovakia and in France. According to this study, in 1964, real wages were 2.3 times, personal consumption per capita (whether with or without publicly financed transfers) 2.4 times, and personal consumption per capita and per work hour 2.64 times higher in France.<sup>15</sup> For 1973, B. Korda estimates Austrian real wages to be at least twice as high as real wages in Czechoslovakia.<sup>16</sup> According to my calculations, in 1960, personal consumption per capita in Western countries exceeded the Czechoslovak level by a factor ranging from 1.18 to 2.63 (for the U.S.) with the exception of Italy.<sup>17</sup> Since following the period of early sixties personal consumption has not grown any faster in Czechoslovakia than in most Western countries, the gap in measurable living levels has surely not narrowed to any significant extent.

### 3. Investments and Dynamic Efficiency

The development of personal consumption needs to be evaluated also in relation to overall growth rates of output, to answer the question of how much the population received in return for its work effort. This way of viewing consumption amounts to a simultaneous evaluation of the economy's efficiency in generating growth, insofar as the consumption statistic is correlated with the development of investments and thereby with the growth of the capital stock. One of the simplest, and at the same time most revelatory indicators of the consumption pay-off of the population and the dynamic efficiency are the relative shares of consumption and investment in the total product.

The highest available estimate of the investment share in the gross national product of Czechoslovakia is that by T. P. Alton who supplies the figure of 29.9 percent for 1950 and 41.3 percent for 1967.<sup>18</sup> This is roughly one third higher than estimates made by researchers in Czechoslovakia.<sup>19</sup> Assuming this relative divergence to have remained constant, to the estimate from the Czechoslovak source for 1973 (i.e., 35.6 percent) there would correspond an Alton estimate of 47.6 percent. If this were true, it would be an utterly unprecedented figure, not ever encountered anywhere in the world. (Although the Czechoslovak source cited in footnote 19 sets the Polish investment share in GNP for 1973 at 46.7 percent!)

It would be rash to dismiss these high estimates offhand just because they sound so unbelievable. Their informative value depends crucially on the degree of trust one is willing to put in the fundamental benchmark estimates for 1955 and 1956; prepared by the

<sup>14</sup> As cited by O. Křín in "The Economies of Austria and Czechoslovakia," paper presented at the American Economic Association meeting, Atlantic City, September, 1976, MS, p. 15.

<sup>15</sup> See Ivan Štrup, "Srovnání životní úrovně a finální efektivnosti výroby v ČSSR a ve Francii," "Politická ekonomie, 1968," No. 2, pp. 112-129. Taking into account differences in the amount of time needed for shopping and various types of queuing would bring, according to the author, the differentials up to a triple or more of Czechoslovak levels.

<sup>16</sup> B. Korda, "A Decade of Economic Growth in Czechoslovakia (1962-73)," "Soviet Studies, 18," No. 6, (Oct. 1976), p. 514.

<sup>17</sup> Václav Holešovský, "Personal Consumption in Czechoslovakia, Hungary and Poland," "Slavic Review, 14," No. 4 (December 1965), pp. 632-633. It seemed clear that these estimates represent a lower limit, similar to those of M. Ernst for West Germany, as cited by Terence E. Byrne in "Levels of Consumption in Eastern Europe," U.S. Congress, "Economic Development in Eastern Europe," Washington, 1970, pp. 300-301.

<sup>18</sup> See U.S. Congress, "Economic Developments, 1970," p. 59.

<sup>19</sup> See "Plánované hospodářství, 1975," No. 10, p. 43.

Research Project on National Income, from which the later estimates were derived. The benchmark estimates were calculated in terms of adjusted factor costs, and presented in two variants, as follows:<sup>20</sup>

Gross investment as percent of GNP:

Variant I:	
1955.....	33.5
1956.....	39.0
Variant II:	
1955.....	30.8
1956.....	35.9

In those estimates, original data at given market prices, generally understating the value of producer goods, were revalued in terms of hypothetical prices reflecting more closely a factor-cost valuation of the individual final-use components of GNP. It is not known how Czechoslovak researchers, referred to in footnote 19, have handled this particular valuation problem. B. Korda is of the opinion that a figure of 35 percent in 1973 may well be an underestimate, citing in support a Soviet author dealing with this question in parallel Soviet circumstances.<sup>21</sup> It seem safe to conclude that a realistic figure would fall today somewhere between the low estimate of 35 percent and the high of some 47 percent, which is extraordinary enough.

Whatever the specific figures of the investment share may be in any single year, Czechoslovak sources register a progressive increase of the gross investment share in GNP:

1950.....	20.9
1955.....	23.0
1960.....	30.7
1965.....	30.7
1970.....	32.3
1973.....	35.6

Source: "Plánované hospodářství, 1975," No. 10, p. 43.

This is an arithmetic corollary of gross investment increasing faster than the GNP, and the economic corollary of increments to the stock of producer goods not being able to produce commensurate increments to aggregate output without encroaching upon the proportion of non-investment uses. This is the classic Soviet-type pattern of growth marked by a capital-for-labor substitution which, although raising labor productivity, raises the productive efficiency of capital and total factor productivity so little that a given target rate of growth requires a higher rate of growth of the capital stock and investments. The low rate of increase of productive efficiency of capital is due to a combination of a slow infusion of technical progress embodied in new producer goods, and systemic disabilities concerning effective utilization of new productive assets, independently of their quality.

One systemic disability consists in the tendency to ignore labor supply which limits the volume of usable new capital stock. At any given moment, there are some objective limits to the utilizable volume

<sup>20</sup> Thad P. Alton and assoc., "Czechoslovak National Income and Product, 1947-48 and 1955-1956," Columbia University Press, New York, 1962, pp. 68 and 70. The two variants differ by the treatment of residential rent in personal consumption.

<sup>21</sup> More rational prices would increase the rate of investment by at least ten points (not percent), according to A. Vainshtein, "Narodnyi dokhod Rossii i SSSR," Moscow, 1969, p. 147, cited in B. Korda, op.cit., p. 509n.

of new productive assets, given by the number of workers available to fill the associated vacancies. There would not be any such limits if the economic system were always ready to retire enough old assets, and thus releasing the requiring number of workers as a supplement to natural labor increments, so that the arbitrarily chosen volume of new assets would be fully staffed. Otherwise, the limit is determined, among other, by economic rationality advising against retiring assets before their economically useful life has run out. In Czechoslovak circumstances, the limit is set by the economic irrationality of keeping old assets in service beyond their economically useful life.

In recent years, new productive assets have to some extent remained understaffed. Thus, in 1976, investments in industry created 13,000 13,000 new vacancies beyond the number that could be filled, and demand for labor in new capacities has made it impossible to fill about 200,000 vacancies created by attrition in old capacities.<sup>22</sup> The difficulty with adequate recruitment for new capacities can be appreciated if one considers that annual increments to the labor force in industry were, in 1971-75, only 0.7 percent on the average, while the stock of machinery was growing by 7.4 percent.<sup>23</sup>

Supplementary labor could be obtained if industry were willing to liquidate more than the 1 or 2 percent of productive assets it has been retiring annually until now.<sup>24</sup> However, there is little hope for improvement as long as the bulk of investments is directed into new plants, and old capacities see their output assignments go up without being able to count on receiving new machinery needed for replacement and expansion. Another motivation working against more substantial liquidations of old assets may be distrust of new capacities because of the notoriously long time it takes to make them work smoothly after installation; hence the need to keep the old stock in reserve. Another obstacle is a reluctance to cause massive lay-offs and dismissals through closing of facilities, in view of insufficient institutional arrangements, say, of the Swedish types, facilitating labor mobility. It is in connection with the liquidation imperative that, in mid-1976, the government strengthened the hand of management by enabling it to dismiss workers more easily.<sup>25</sup> The danger of continued inefficiency through this type of over-investment, is likely to grow, considering that employment is expected to increase by only 80,000 from 1976 to 1980. (The increase was about 200,000 in 1971-75).

Under these conditions, stretching the number of workdays per year by three, or inviting Vietnamese workers, in addition to the relatively minute proportion of foreign labor (around 20,000 out of 7.4 million),<sup>26</sup> seem like inconsequential actions born from despair. The system's directors could regain a new freedom of maneuver with respect to final uses of output only if they succeeded to maintain the accustomed growth rates while reducing the share of investments. This can be achieved only by means of raising the rate of growth of total factor productivity, which speeds technological innovation. However, according to the econometric study undertaken by Oldrich Kým, the long-term trend in the Czechoslovak economy has been

<sup>22</sup> "Plánované hospodárství, 1976," No. 9, p. 30.

<sup>23</sup> *Loc. cit.*

<sup>24</sup> *Loc. cit.*

<sup>25</sup> "Hospodářské noviny, 1976," No. 21, p. 1.

<sup>26</sup> "Czechoslovakia's Importing Vietnamese Workers," *The New York Times*, April 25, 1976; "Statistická ročenka, 1976," p. 108.

a declining one—of almost half percent annually, so that the growth rate of total factor productivity in the mid-sixties was down to some percent p.a., not enough to keep growth rates up without claiming an increasing proportion of output for investments. (In contrast, Austrian data yield an estimate of total factor productivity growing from 1.3 percent in the early 'sixties to over 5 percent in the seventies.)<sup>27</sup>

This is where the effort in research and development, and the absorption capacity of innovation by the economic system, become important. In 1971-75, Czechoslovakia has been devoting, among the CMEA countries, the highest proportion of its national income to research and development (3.8 percent) and was a source of a net outflow of technical documentation to the other CMEA countries.<sup>28</sup> However, the tautness of plans has continued to maintain an atmosphere of rush to meet schedules dictated by foreign trade contracts or by the mechanical chronology or reporting fulfillment of planned indicators, and to prevent authentic planning, which would include a continuous, even if organically irregular, incorporation of new technologies. Short-run tactics assuring the fulfillment of tasks by means of "collective and individual self-sacrifice bordering on heroism" continue to prevail over long term innovation strategies.<sup>29</sup>

## II. DOMESTIC ECONOMY AND FOREIGN TRADE

Czechoslovak foreign trade, and through foreign trade the entire domestic economy, found themselves by the mid-seventies under the simultaneous impact of several adverse factors: Western recession reducing demand for Czechoslovak commodities, as well as their prices; increase in the cost of oil from Soviet as well as non-Soviet sources; projects designed within the framework of the 1971 "Complex Program" of the CMEA reaching the stage of implementation; these projects, together with planned growth rates, placing increased demands upon imports of fuels, investments into expansion of power plants and coal output, as well as imports of advanced machinery from the West. The resultant of all these factors working in combination has been a tendency for the volume of trade with the CMEA countries to expand and a related tendency for the trade balance with the West to deteriorate and for Czechoslovak indebtedness from cumulated trade deficits to increase. While the economy has apparently survived this situation through 1976 without any dramatic crisis, signs of strain and disruptions have been multiplying.

Czechoslovak terms of trade had a gently deteriorating tendency since the early sixties.<sup>30</sup> Soviet authors kept bringing up more or less obliquely the price disadvantage of the Soviet Union with respect to its raw material customers, such as Czechoslovakia, but only in 1974 did the Soviet Union follow through by deeds, raising prices of its

<sup>27</sup> O. Křín, *op. cit.*, p. 14.

<sup>28</sup> In 1971-75, 8,000 pieces of documentation were supplied by Czechoslovakia to the rest of CMEA, and 6,000 pieces went in the opposite direction. "Hospodářské noviny, 1976," No. 30, p. 4:

<sup>29</sup> "Hospodářské noviny, 1976," No. 6, p. 7.

<sup>30</sup> See Paul Marer, "Postwar Pricing and Price Patterns in Socialist Foreign Trade (1946-1971)", IDRC, Indiana University, Bloomington, 1972, p. 75.

exports articles, especially oil, and thereby worsening Czechoslovak-Soviet terms of trade by some 20 percent or more.<sup>31</sup>

It is important to underscore the interdependence of some of these factors, in particular the implementation of new projects and increase of exports to the Soviet Union and the pressure on imports from the West, under conditions where the possibilities of earning enough foreign exchange by expanding exports to the West are being undermined. The situation is well illustrated by the case of the construction of new capacities for the production of large-diameter pipes for Soviet oil pipelines, precision pipes for nuclear energy projects, etc. The protocol concerning this order was signed between the Soviet and Czechoslovak governments on August 21, 1975(!), bringing a new and unexpected element into the preparation of the plan for 1976, based on the project for the sixth five-year plan (1976-1980) which, by that time, was finished. The project consists in the expansion of output capacity in five enterprises of the Association Ferrous Metallurgy (*Hutnictví Zeleza*). The report, signed by the general directors of the association, states:

Expansion of these capacities \* \* \* represents an extraordinarily demanding task, not only because of its considerable scope, short terms scheduled for the preparation and the construction itself, but also because of the demanding technology of stainless steel pipes \* \* \*. Construction of these capacities will require costs which, as of today, amount to about 36 percent of the total volume of investments earmarked for enterprises of the association Ferrous Metallurgy \* \* \*. A substantial part of budgeted costs represents the cost of installations imported from abroad (they amount to about 50 percent of total cost \* \* \*).

Because of these weighty facts all construction projects of this program \* \* \* have been entered as mandatory tasks (závazné úkoly) of the state plan \* \* \*. The government of the CSSR, endeavoring to create the necessary prerequisites for securing the technical and economic preparation and the construction work itself, consented to a great number of exceptions concerning regulations of project documentation and its realization \* \* \*.

There also were problems with supply conditions \* \* \*. At the time when demands \* \* \* were made known, construction and domestic machine tool enterprises were mostly loaded to full capacity by demands originating in other high-priority programs \* \* \*.<sup>32</sup>

Analogous situations have apparently developed elsewhere, as witness the following statement by Zdeněk Půček, Minister of metallurgy and heavy machinery construction:

We have a number of other problems that we are in the process of solving, particularly in securing extraordinarily demanding export tasks for the USSR, the CMEA countries and capitalist states. It is primarily a question of securing exports of chemical installations for the Soviet Union, where we have to expand our own capacities and secure necessary internal and international subcontracting (*kooperace*).<sup>33</sup>

The minister advises to judge positive production results of the year 1976 soberly, mainly because "planned targets for 1976 do not as yet fully reflect the burden of requirements connected with structural transformations laid out for the coming years of the sixth five-year plan. This concerns primarily the proportions between exports and investments \* \* \*."<sup>34</sup> According to the plan for 1977, exports to the

<sup>31</sup> Martin J. Kohn, "Developments in Soviet-Eastern European Terms of Trade, 1971-1975," in U.S. Congress. "Soviet Economy in a New Perspective," p. 77. Claims for damages due to failure to fulfill the terms of contracts may be a significant element aggravating the terms of trade. It may be of interest to note that 41 percent of all penalties in 1975 and 45 percent in 1973 were paid to socialist countries, although these filed only 28 percent of the total number of claims. ("Hospodářské noviny, 1976," No. 36, p. 5.)

<sup>32</sup> "Hospodářské noviny, 1976," No. 21, p. 9.

<sup>33</sup> "Hospodářské noviny, 1976," No. 39, p. 9.

<sup>34</sup> *Ibid.*

Soviet Union of articles of "exceptional importance" are to increase, compared to 1976, by 29 percent, to capitalist states by 43.5 percent, and for mandatory construction projects by 31 percent.<sup>35</sup>

This quantum leap in demands placed upon the Czechoslovak economy is reminiscent of the periods of early fifties, and then again early sixties. In the early fifties, upward revisions of the production and investment tasks of the first five-year plan (1949-1954) were a function of export demands on the part of the Soviet Union. To quote a Czech economic-history treatise.

For Czechoslovakia, the treaty with the Soviet Union for 1950-1955 was the most important one. These agreements raised the demands upon Czechoslovak heavy industry, in particular upon the production of heavy machinery and equipment \* \* \*. These articles were highly material-intensive and necessitated the construction of new capacities, or a reconstruction of existing ones.<sup>36</sup>

Part of this upward revision were production tasks for armaments which quadrupled in the years 1950-52,<sup>37</sup> and increased sevenfold in the period 1948-53.<sup>38</sup>

In the period of early sixties, the element of raised export requirements was also present, in combination with the imposed need to make abruptly important changes in the structure of productive capacity. Discussing the crisis that ensued, President A. Novotny is quoted to have said: "We did not know that the new military technology would be so expensive as to become a burden to the whole national economy."<sup>39</sup> The importance of this element has been confirmed in subsequent scholarly analyses citing changes in conditions of trade with socialist countries, which had included also "conditions of Czechoslovak exports of classic military technology."<sup>40</sup> Contemporary sources reached this degree of explicitness concerning the current situation, but the armaments component might be guessed at from the juxtaposition of explicit references to pipelines, chemical and other programs, with cryptic references to deliveries of "extraordinary importance."

In the immediate, there were some limited possibilities for coping with the balance of payments problems in the short run. As regards the rising oil bills presented by the Soviet Union, Czechoslovakia was able to cushion their import in 1975 by drawing on its holdings of convertible rubles accumulated for balance-of-payments surpluses with the Soviet Union in 1972-1974.<sup>41</sup> To some extent, it could raise the price of its own exports.<sup>42</sup> As regards trade deficits with the world outside CMEA, Czechoslovakia had a certain leeway in being able to afford increasing its indebtedness, more so than any other CMEA country. Its net indebtedness to the West at the end of 1974 was the lowest among CMEA countries, both absolutely (0.7 billion dollars)

<sup>35</sup> Ibid.

<sup>36</sup> Rudolf Olšovský, and Václav Průcha, eds., "Stručný hospodářský vývoj Českoslovenka do roku 1955," Svoboda, Prague, 1969, p. 397.

<sup>37</sup> Ibid., p. 392.

<sup>38</sup> "Plánované hospodářství, 1968," No. 12, p. 18.

<sup>39</sup> Cited in P. J. D. Wiles, "Communist International Economics," Praeger, New York, 1968, p. 114-115.

<sup>40</sup> K. Rozsypal, "Dvacet pět let vývoje plánování a řízení československého národního hospodářství," Prague, VŠE, 1971, p. 48, cited in "Politická ekonomie, 1975," p. 63, together with a reference to analogous formulations in J. Rezníček, et al., "Základy hospodářské politiky KSČ," Prague, Svoboda, 1973.

<sup>41</sup> "Hospodářské noviny, 1976," No. 10; Statistická ročenka, 1976, p. 429.

<sup>42</sup> Thus, while exporting just about the same volume of shoes to the Soviet Union in 1975 as in 1974 (27.8 and 27.6 million pairs respectively), Czechoslovakia earned almost 50 percent more in devisa crowns in the later year. See "Statistická ročenka, 1976," pp. 438 and 446.

and as ratio to hard currency exports (0.4); by the end of 1975, these figures jumped to 1.2 billion dollars and 0.7—still only about one half the figures of the next bigger debtors, Bulgaria, Romania, and Hungary, and way below those of Poland, East Germany, and the Soviet Union.<sup>43</sup>

It may be asked what had enabled Czechoslovakia to control its level of indebtedness so much better than her CMEA partners. At this point one cannot go beyond stating what is implied in the figures: the government apparently took Polonius' policy strictures to heart—"neither a borrower nor a lender be." (The major exceptions have been heavy export surpluses with Iraq and Syria after 1969, and with Lebanon after 1972, and those may have been financed by other means than ordinary commercial credits.) It accords with this principle that the government should try and continue using the Western credit valve sparingly. In the fact of reduced earnings from Western exports in 1975, Czechoslovakia has been trying to slow down the rate of imports from the West. It is not clear from the figures alone to what extent the loss of hard-currency export earnings has been caused by the diversion of potential exports to the West toward the the CMEA market, but the data in Table 3 suggest a direct connection between the slump of the real volume of trade with the West, surge of exports to CMEA, and barely any change in real imports overall, from 1974 to 1975.

TABLE 3.—CZECHOSLOVAK FOREIGN TRADE, SELECTED DATA, 1970-75

[In billion devisa crowns]

	1970	1971	1972	1973	1974	1975
Imports, total.....	26.6	28.9	30.9	35.8	44.0	50.7
Soviet Union.....	8.7	9.8	10.3	11.7	12.0	16.3
Other socialist countries.....	9.8	10.3	11.6	12.7	16.6	19.1
Advanced capitalist countries.....	6.5	7.1	7.2	9.0	12.2	12.5
Less developed countries.....	1.6	1.7	1.9	2.3	3.2	2.8
Exports, total.....	27.3	30.1	32.6	35.3	41.2	46.7
Soviet Union.....	8.8	9.5	11.1	11.2	12.3	15.4
Other socialist countries.....	10.5	11.6	12.3	13.8	15.5	18.0
Advanced capitalist countries.....	5.6	6.1	6.4	7.7	9.9	9.3
Less developed countries.....	2.5	2.9	2.8	2.7	3.6	4.0
Index of the real volume:						
Imports.....	100.0	105.9	110.2	121.0	134.2	136.8
Increase over the preceding year.....		5.9	4.1	9.8	10.9	1.9
Exports.....	100.0	108.4	116.8	120.9	127.0	135.6
Increase over the preceding year.....		8.4	7.7	3.5	5.0	6.7

Source: "Statistická ročenka, 1976," p. 426 (figures may not add up to totals because of rounding).

In the longer run, the disequilibrating forces acting upon the balance of payments can be countered only by substantial adjustments of a structural order, such as would reduce import requirements and raise productivity in export-oriented sectors of the economy. There also is the most drastic alternative of them all: reducing the most import-intensive lines of production working for exports. The consequent cuts in export earnings would thereby be made bearable by a simultaneous reduction of import requirements, and the released production factors

<sup>43</sup> Based on estimates made at the Chase Manhattan Bank.

would have to be reoriented toward product lines drawing on domestic supply of inputs, labor-intensive services, or subcontracting with Western firms. This kind of radical solution is, of course, out of the question at a moment when enforced CMEA trade contracts command exactly the opposite: an exacerbation of import-intensive export activity. The other long term remedies of a structural sort would require a speedy reversal of tendencies that have their roots in inefficiencies nurtured by the established economic system.

Two most conspicuous and often written about inefficiencies characterizing the Czechoslovak economy have been the high material and fuel consumption per unit of final real output. Czechoslovak rates have been estimated to lie between 1.5 and 2 times higher than corresponding rates in West European countries.<sup>44</sup> This fact has worked adversely both on import requirements of raw materials and fuels, and on export earnings: the high material consumption is reflected in the excessively great weight, by current world standards, of Czechoslovak machinery, and low prices per kilogram of engineering items realized on Western markets.

Among the chronic obstacles to sustained expansion of exports to the West one keeps coming across complaints about terms of deliveries, availability of spare parts, and servicing. The few big export hits, such as the water-jet loom or the leather-softening machine Molissa, have apparently been exceptions, not harbingers of a basic upturn in Czechoslovak export capabilities.

The preferred remedies that are being applied, or contemplated, have so far shied away from fundamental systemic changes. Improvements have been sought by methods acting directly upon behavior of enterprises. The specialization drive within the CMEA has registered an increasing annual number of multilateral specialization agreements. In machine building, 21 agreements were concluded between 1971-1974, covering 4,470 items (of which about one half concerned ball-bearings); in 1975 alone, the number of agreements rose to 33, covering over 2,000 items, and for 1976, 54 agreements were under preparation.<sup>45</sup> It remains to be seen whether this formal activity will result in increasing the comparatively low rate of specialization and trade-integration of Czechoslovakia with the other CMEA countries. (An interesting study has shown that the degree of intra-branch integration of Czechoslovakia within CMEA is substantially lower than that of the Netherlands, as well as other countries, within the Common Market.<sup>46</sup>

<sup>44</sup> "Politická ekonomie, 1975," No. 2, pp. 99-100, and Plánované hospodářství, 1975, No. 1, 88-89.

<sup>45</sup> "Hospodářské noviny," No. 14, 1976.

<sup>46</sup> The ratios of the net trade balance to total trade turnover for commodity groups within industrial branches were estimated to have been as follows:

	1965	1972
1.a Czechoslovakia/rest of the world.....	0.4470	0.4296.
1.b The Netherlands/rest of the world.....	.3150	.2832
2.a Czechoslovakia/CMEA.....	.4861	.4664
2.b The Netherlands/EEC.....	.3701	.3165.

NOTE.—For 1968, ratios analogous to line 2.b were, for Belgium 0.330, France 0.310, German Federal Republic 0.350, and Italy 0.373. (See: Karel Dyba, "Measurement of the Process of Intra-branch Specialization in Foreign Trade and in Production," "Politická ekonomie, 1975," No. 2, pp. 150-151.

For economically advanced small and middle-size countries, an overall increase in specialization should be reflected in the increase of their share in world trade. While this has been the case for CMEA countries undergoing industrialization, and EEC countries in general, Czechoslovakia's share in world trade has not changed from 1950,<sup>47</sup> a *prima facie* sign of falling short of attainable possibilities.

A large part of the export problem of Czechoslovakia has been repeatedly diagnosed as due to a lagging rate of innovation, not merely in production methods but in product quality and design. This is the same general cause we cited earlier as lying at the root of the comparatively low efficiency of investments in generating growth. "Joint projects" with the West seem to have been more written about than put to a real test. Rather than using them to stimulate exports, there has been concern with merely balancing imports and exports associated with joint projects,<sup>48</sup> though more flexible arrangements were announced for 1976. Managerial cadres have been cool to such ventures because of personal security considerations, taking them to be "politically not affordable" (*politicky neúnosne*).<sup>49</sup> With respect to joint projects, one manager assessed the situation in the following words: "Speaking globally, we have been putting patches upon patches."<sup>50</sup>

The other source of technical innovation, purchase of licenses from abroad, has been somewhat cultivated, though not at any impressively increasing rate,<sup>51</sup> and their practical utilization has been "marginal," "nonprofessional," and "ineffective," according to the Minister of General Machinery Construction.<sup>52</sup> Domestically, the regime introduced exact monitoring of new products from the point of view of world technical standards and potential economic returns. (New products have accounted for 12-13 percent of total output; of this percent about one third corresponded to world technical parameters, of which in turn only one third was also economically advantageous).<sup>53</sup> Disincentives, intended to discourage continued production of outmoded or high-cost items, have been applied in the form of reduced prices of such items paid to producing enterprises.<sup>54</sup> Price supplements and downward adjustments of prices, intended to stimulate production for exports and to discourage demand for imported

<sup>47</sup> "Plánované hospodárství, 1975," No. 9, p. 88.

<sup>48</sup> "Hospodářské noviny," No. 5, p. 4.

<sup>49</sup> "Hospodářské noviny, 1976," No. 44, p. 8.

<sup>50</sup> "Celkově to flukujeme." *Ibid.*, p. 9.

<sup>51</sup> The following tabulation gives an idea of the absolute extent of license contracts:

	1973	1974	1975
Number of contracts:			
Currently in force.....	303.0	356.0	376.0
Concluded in a given year.....	29.0	34.0	46.0
Payments for licenses (in million devisa crowns):			
Total.....	280.1	323.2	258.3
For licenses bought in a given year.....	15.4	37.6	36.3

(Source: "Statistická ročenka, 1976," p. 135.)

<sup>52</sup> "Hospodářské noviny, 1976," No. 29, p. 1. The purpose of licences has been frustrated since 'it is becoming a rule that product innovation is associated with claims for higher imports from the capitalist world, higher cost calculation, but export possibilities to exacting markets remain problematical.' *Loc. cit.* See also *ibid.*, No. 41, p. 4.

<sup>53</sup> "Statistická ročenka, 1976," p. 135.

<sup>54</sup> "Hospodářské noviny," No. 7, p. 1.

articles, have been in force as a carry-over from the 1967 reforms, but this practice was to be discontinued in 1977 as ineffectual.<sup>55</sup>

Technical intelligentsia has been generally a target of exhortations, carried in tones of respectful courtship, as exemplified by the speech by the Premier Lubomír Štrougal on "The Task of the Scientific-Technical Intelligentsia after the 15th Congress of the CP," made on September 29, 1976.<sup>56</sup> The complex of planning documents for the sixth five-year plan (1976-1980) contains, as a separate part, an implementation plan of the tasks of technical development. The innovation consists in setting up, as planned, the full chain of stages leading from basic research, through applied research, design of projects, their technical documentation, down to mass production and marketing. As a supplementary component, a new type of "coordination plan" will chart activities across administrative boundaries of sectoral ministries, so as to streamline the passage of ideas from the drawing board to the assembly line.<sup>57</sup> However, it is not the center that is to be in charge of managing the innovation effort. That is to be the task of the intermediate rung of economic administration. One has not ceased, in recent years, to stress the need to "strengthen the middle management," i.e., the "associations," to use the Soviet term,<sup>58</sup> and their "general directors." As we shall see, the single major systemic reform introduced in the first half of the seventies also concerned the structure of these associations.

All these approaches to raising the rate of technical innovation and efficiency, and thereby the export viability of the economy, have one feature in common: they are based on the principle of trying to determine economic behavior by means of direct administrative measures, rather than by relying on managerial incentives forming part of some built-in automatism of the economic system. However, from about 1975, it is possible to register a slow crescendo of pronouncements critical of the economic system of centrally administered planning, reestablished after 1969/70. In the aforementioned speech, Premier Štrougal seemed to have implicitly endorsed this new tide of reformism by declaring:

For the time being, we continue to busy ourselves primarily with isolated tasks which, although useful in themselves, cannot bring about a general progress in the technical niveau of production, to speed up the turnover of production programs, and contribute to a better utilization of the stock of capital. We cannot, after all, reconcile ourselves to good ideas not being applied, among others, because of certain shortcomings in the existing system of management and material incentives that stand in the way.

We have to seek solutions to these problems, both on the conceptual and operational planes, given the great economic losses involved which, in their consequences, undermine people's trust, their attitude toward work, and their initiative.<sup>59</sup>

### III. INSTITUTIONAL ASPECTS: THE ECONOMIC SYSTEM

Surveying the situation back at the start of the 'seventies, it seemed advisable to suspend one's judgment as to the extent to which the economic reform measures of the years 1967-1968 would be

<sup>55</sup> "Plánované hospodářství, 1976," No. 5, p. 17.

<sup>56</sup> "Hospodářské noviny, 1976," No. 42 (supplement).

<sup>57</sup> "Plánované hospodářství, 1975," No. 4, p. 23.

<sup>58</sup> The local term is "economic production units," which sounds as peculiar in Czech as in translation (výrobně hospodářské jednotky," or VHJ).

<sup>59</sup> "Hospodářské noviny, 1976," No. 42, supplement, p. 9.

liquidated.<sup>60</sup> It was clear that, after Gustav Husák's restoration of the authoritarian régime, the economic reform would not be continued in the direction of the original "target solution," which amounted to a market-type state capitalism, guided by econometric forecasting tools of indicative planning, opened up to foreign competitive imports, possibly with elements of employees' participation in management, and surely with trade unions returned to their role as autonomous interest organizations of labor. However, it seemed improbable, since it was so patently unreasonable, that the unwieldy apparatus of central planning would be fully resurrected, after experience had shown that the economy can easily do without, to put it with minimalist understatement.

Nevertheless, the resurrection did take place, more thorough than was thought possible. It was carried out in the name of "reinforcing the planning element" in the economic system. For five years, articles and pronouncements on the operation of the system were being turned out carrying the stamp of official apologetics of centralism, again written in the deadpan insipid prose reminiscent of the dark 'fifties. The system of material balances, restricted by 1968 to 3-5 items, was expanded again. It covered 380 items in the last five-year plan, and a further extension to 590 items was foreseen for the 1976-1980 plan.<sup>61</sup> Parallel to the revival of material balances, a system of distributing points in charge of allocating rationed commodities, known as "gesce" (gestions), was reconstituted from scratch—it had been completely phased out by 1967.<sup>62</sup> Old-style success indicators, reducible to the "gross value of output," were returned to their earlier pre-eminent status.

A potentially significant change was introduced in the structure of "associations." According to arrangements introduced in 1965, "associations" (výrobně hospodářské jednotky) existed in two basic types. One category consisted of "associations" represented by one large enterprise corresponding to an industrial branch (oborovy podnik), and another category had the governing body of the association (its "general directorate," *generalni reditelstvi*) assume selected functions for the organizationally subordinate enterprises without these enterprises losing their independent economic and legal identity (the "trust" form). These two basic forms were supplemented in 1974 by a third form, that of a "concern" (koncern), which allowed for a much tighter integration of the subordinate enterprises into a single economic and legal unit. The purpose was to strengthen the intermediate tier of management, make it into an effective "transmission belt" of planning functions between the center and the enterprises, eliminate duplications of operations by enterprises, and articulate more rationally overhead functions, such as research and development, and guidance of technological innovations.<sup>63</sup> The measure

<sup>60</sup> See V. Holešovsky, "Planning and Market in the Czechoslovak Reform" in Morris Bornstein, ed., "Plan and Market: Economic Reform in Eastern Europe," Yale University Press, New Haven, 1973, pp. 313-314, 340-345.

<sup>61</sup> "Plánované hospodářství, 1975," No. 11, p. 7. However, the source refers to these balances as used in calculations for planning purposes, and leaves it vague what part of items covered have been subject to actual allocation via centralized rationing.

<sup>62</sup> Gustav Svěrák, "Application of Gestions and Perspectives of their Development," "Plánované hospodářství, 1976," No. 10, pp. 57-63. The significant feature of this system is that organs in charge of material distribution are not necessarily central ministries; they may be located at the level of "associations" who are major producers or importers of a given article.

<sup>63</sup> "Organization of the Production and Technological Base," supplement to "Hospodářská noviny," No. 42, 1974.

seems to have been adopted in imitation of a similar 1973 reorganization in the Soviet Union, but not much has been heard since about its actual implementation.

The relatively favorable statistical record of the system's economic performance in the years 1969–1975 would seem to have conclusively vindicated the view according to which the 1967 economic reform was an unnecessary overreaction to the recession of 1962/63. This has been the thesis of Dr. Kurt Rozsypal whose group stood in unsuccessful opposition, during the sixties, to economists led by Ota Šik, and who has become the senior quasi-scholarly spokesman of reconstituted centralism in the seventies. According to Rozsypal's views, central planning, cured of its worst rigidities, such as prevailed in Czechoslovakia after 1958, and then again after 1970, has been a perfectly viable system. The fateful recession of 1962/63 was not to be attributed to the character of the system as such, but to specific policy mistakes (such as permitting an overextension of decentralized investment demand which developed around 1960) or shocks originating outside the system (such as collapse of trade with China, weather catastrophies, etc.). The resumption of economic expansion after recentralizing measures in 1964–65, and sustained growth after the end of market-oriented reformism in 1969, seem to support the anti-reformist position.

However, the issue was never, "Does the system work?" but "How efficiently does it work, compared to possible alternatives?" From that point of view, recentralization of the seventies put back on the agenda complaints about many of the well-known malfunctions that the 1967 system seemed to be about to start eliminating,<sup>64</sup> as well as about those with respect to which the reform was not long enough in effect to be able to tell whether it would have been beneficial or not (see preceding section). The crisis of 1962/63 was surely not entirely, or not even principally, caused by internal shortcomings of the system, but it served as a welcome pretext of dramatic proportions for turning attention to these durable sources of inefficiency. This time, it is the accumulation of difficulties in the foreign trade area, again of exogenous origin, which have revived official interest in more fundamental changes of the system. The phrase about "reinforcing the element of planning" has long disappeared. It was replaced by references to the open-ended character of the system and the need for continuity of its improvements. The term "reform," though, remains taboo. Instead, it has become fashionable to speak of "conceptuality" (*koncepčnost*) in the design of the required, but still unspecified improvements. The signs have multiplied throughout 1976, suggesting that "this is where we came in," twelve years earlier.

Ideas of the (or *an*) economic reform have led an underground or unofficial life throughout the period of recentralization. Despite the departure of major reformist figures into exile, and domestic purge of some of the most creative economists, work on themes implicitly related to reforms has continued. Thus, a research team led by Josef Goldman has concentrated on studies in the area of macroeconomic projections, forecasting and regulation, topics which make sense only

<sup>64</sup> A certain amount of statistical evidence to that effect was collected by B. Korda in the cited article, p. 518–519, and accords with the impressions of direct participants as to a perceptible pick-up in economic activism during the two years of the reform.

in the framework of indicative planning.<sup>65</sup> Besides such initiatives of individual scholars, some interest in the design of possible reform measures has originated with higher places, as evidenced by "research project No. VIII-2-2," assigned a few years ago to the Economic Institute of the Czechoslovak Academy of Sciences as part of the State Plan of Basic Research. The project, completed in 1975, investigated theoretical foundations of the planning system, and the results were intended to serve as basis for practical proposals to be worked out at the applied research level.<sup>66</sup> Official sponsorship precluded all political overtones and electrifying intellectual fervor that characterized the reform movement of the sixties, but, judging from a published report, the results were, technically, a respectable, and even improved version of the earlier reform conceptions, although the character of a coherent global vision was missing.

Parallel to that work, the editorial board of the journal *Politická ekonomie* organized in April 1975, just as eleven years earlier, a great panel discussions on problems of raising economic efficiency, with literal echoes of the 'sixties (e.g., "What is in the interest of the economy as a whole, must be equally advantageous for enterprises.")<sup>67</sup> Although the discussion ranged far and wide over all the familiar problems associated with centralized planning, its focus was on the need to give the system of incentives a new structure. In the period of recentralization, incentives seemed to work heavily in the direction of encouraging tax fraud, falsification of accounts, outright stealing, phony employment contracts, arrangements for lucrative outside advisory jobs, and all types of corruption.<sup>68</sup> This power of material incentives, now dissipated in unintended channels, should be harnessed again, many feel, to serve enterprise performance. In the conclusions of the panel debate organized by *Politická ekonomie* we read:

It turns out that we still did not succeed in finding an effective instrument able to eliminate negative phenomena in the behavior of the enterprise sector, in particular dissimulation of reserves, and efforts to soften up the plans. Short time horizon in decision making and evaluating enterprise performance is another serious shortcoming. There exist different views as to the possibilities of liquidating these shortcomings. The majority of economists are of the opinion that the principal route is to be sought in raising the role of profit, the profit being the most synthetic (nejkomplexnější) indicator of economic efficiency of enterprise activities, and further in strengthening the linkages between profits, movements of personal incomes, and investment activities.<sup>69</sup>

Despite these stirrings of reformist theorizing, spokesmen of governmental places give no indication of imminent broadly conceived reforms. For the rest of the 'seventies, one counts on "experimental testing of new elements in the area of planning."<sup>70</sup> It is obvious that the overwhelming influence of conservative centralizers, installed in key positions after 1969, stands in the way of a consequent, integral reform. Ivan Cima, an official of the Central Planning Commission

<sup>65</sup> Cf. Josef Goldman, "Makroekonomická analýza a prognóza," Prague, Academia, 1975.

<sup>66</sup> See Josef Brčák, "Theory or Future Praxis," "Hospodářské noviny, 1976," No. 28, p. 3.

<sup>67</sup> "Politická ekonomie, 1975," No. 6, p. 487. (This issue printed the text of the main papers and portions of the discussion).

<sup>68</sup> The account on illegal practices of personal enrichment by the Deputy Minister of Finance, František Hajek, conveys the impression of rampant criminality among economic management. See "Hospodářské noviny, 1976," No. 33, p. 3.

<sup>69</sup> "Politická ekonomie, 1975," No. 6, p. 523.

<sup>70</sup> Vladimír Mička (chief of the economic division of the CP), "Improvement of the System of Planning—a Pressing task," "Hospodářské noviny, 1976," No. 40, p. 8.

sums up his evaluation of the preliminary work on reform options as follows:

The chosen approach for raising the quality of the planning system was unquestionably correct but the fulfillment of its requirements has been very difficult. It turned out that a truly critical analysis of the existing state of affairs has been a particularly complicated task, and so was the very organization and evaluation [of that analysis], which is the basic prerequisite and starting point for improving the system as a whole and its individual components.<sup>71</sup>

The author is forced to conclude that, "in a number of directions, the necessary search for optimal solutions is still awaiting us."

In the meantime, the problem of internal systemic changes raises the problem of coordination of national plans of individual CMEA countries. The Seventeenth CMEA Session recommended the creation of divisions concerning economic planning, with special attention to economic integration. For the time being, an attitude of temporizing seems to prevail. Each individual country continues to go it alone in contemplating systemic changes. Only "in a long-range outlook is it necessary to count with mutually coordinated interventions of a more complex type into national systems of planning."<sup>72</sup>

Recently, the influence of internal planning systems of CMEA countries upon each other has largely consisted in transmitting elements of chaos. Earlier, we have cited testimony concerning Soviet rush orders, necessitating neglect of regulations and revamping of specific production plans in the course of execution of a given annual plan. It has become a regular occurrence every year for a large portion of export tasks to remain for too long in the form of an unspecified global sum, a fact that "extraordinarily impeded the preparation and recalculation of the plan (but, naturally, also the preparation of exports on the production and commercial sides)."<sup>73</sup> Czechoslovakia, in turn, has been a course of analogous problems for others, because Czechoslovak users of imported articles "developed the custom, over the years, to specify their needs at a later date (after the conclusion of negotiations concerning annual trade protocols and the allocation of foreign-exchange quotas)."<sup>74</sup> Delays in specification of export orders combine with the quarterly chronology of performance indicators to create classic cases of "storming." Thus, in 1976, over one third of machinery exports to CMEA markets were completed in the last sixth of the first quarter, though for individual firms the proportion may reach from two thirds up to 90 percent.<sup>75</sup>

Under these conditions, the issue of desirable systematic reforms is becoming, by force of circumstances, a matter of increasing concern to all CMEA countries simultaneously, though to the Soviet Union probably the least. It seems clear that a smooth and continuous flow of trade orders and production for exports can take place only when state trading organs, operating as a rule by annual spasmodic jerks,

<sup>71</sup> Ivan Cima, "Some Questions of the Planning System," "Plánované hospodářství, 1976," No. 5, p. 11.

<sup>72</sup> Ladislav Matějka and Josef Holeček, "Integration and National Planning Systems," "Hospodářské noviny, 1976," No. 36, p. 3.

<sup>73</sup> Zdeněk Sedivý, Deputy Chief of the State Planning Commission, "External Economic Relations," "Hospodářské noviny, 1976," No. 32, p. 3.

<sup>74</sup> *Ibid.*

<sup>75</sup> "Hospodářské noviny, 1976," No. 22, p. 2. This particular source of the typical "seasonal" movement of centrally planned economies exists in addition to ordinary internal reasons which lead many enterprises to fulfilling more than one half of their monthly output in the last third of the month. The loss of working time due to inferior organization of work is estimated, for the Czech part of the country, at 20-30 percent of available working time. ("Plánované hospodářství, 1975," No. 4, p. 76.)

have their role reduced in favor of direct dealings between production units involved. The logic of the problem leads to solutions calling for radical decentralization.

The publication in the Czechoslovak planning journal of an original article, unusually rich in content and unconventional ideas, written by a Polish writer, assumes under given circumstances an exceptional significance. The author, Antoni Marszalek, gives great publicity to the work of Marian Guzek,<sup>76</sup> and his advocacy of indicative planning as a way out of the planning confusion of centralism. The crucial passage is worth quoting in extenso, and serve as a suitable conclusion to our survey of the situation with respect to systematic changes. Having pointed out the close interdependence between internal planning systems and the problem of international coordination, Marszalek concludes that, ultimately, only practical adoption of indicative planning at the level of supra-national organs of CMEA, as proposed by Guzek, promises a solution of the international coordination problem:

Despite the resistance of those who might defend the view according to which directive planning is characteristic for all planning in a socialist economy, it is much rather probable that the introduction of indicative planning in the CMEA would raise the effectiveness of the influence exerted by this body upon economic decisions in member countries (without having to replace "recommendations" by "resolutions," the implementation of which is a supremely complicated matter). However, in order to make optimal utilization of the advantages of indicative planning at the international level possible, it is necessary to strive for an extensive utilization of commodity and money relations, both with respect to mechanisms governing economic activities within countries, and with respect to international relations. Besides, the process of improving planning processes is made enormously more difficult if it does not go hand in hand with the utilization of advantages of the socialist market.<sup>77</sup>

It is highly probable that, whoever was responsible for the publication of this article in the Czechoslovak journal, was printing a piece by an author from a "fraternal country" in order to get around the domestic censorship, and using its message pro domo.

#### IV. FUTURE PROSPECTS

Having weathered the early years of the decade relatively well, Czechoslovak economy has entered a period of unsettling circumstances. Severely worsened terms of trade with the outside world mean less output available for domestic uses if imports were to grow at pre-1975 rates. But then, reduction of imports would also mean slower rates of growth, particularly if they cut into productivity-enhancing imports of Western producer goods, and result in still lower availabilities for domestic uses. Continuation of high and increasing investment quotas, due to systemic reasons and to projects connected with current trade requirements and capital exports for CMEA joint projects, are also bound to make further increases in consumption more problematic.

It is not clear whether the cumulative effects of the various pressures will produce a crisis or only a protracted strain. The régime intends to alleviate the difficulties, first, by means of a systematic program of

<sup>76</sup> M. Guzek, "Miedzynarodow integracja gospodarstwa w socjalizmie," Warsaw, 1971.

<sup>77</sup> Antoni Marszalek, "Common Planning—New Form of Cooperation between the CMEA Countries," "Plánované hospodárství, 1975," No. 12, p. 67.

increasing the economy of fuel and energy utilization.<sup>78</sup> Beyond that, most measures aiming at increasing productivity, and thereby countering the worsened terms of trade, as well as obviating high investment requirements, touch upon the problem of the "inert core" of the recentralized planning system. The need for changes is generating fear of changes. Postponement of changes is likely to make the need for changes more acute. In the meantime, official statements betray tension and worry concerning the ability of administrative measures to prevent eventual "bottleneck multipliers" from rippling through the economy and escalating into a wave of crisis proportions.

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<sup>78</sup> See "The State Program of Rationalization of Fuel and Energy Consumption for the Period of the Sixth Five-Year Plan," Supplement to "Hospodářské noviny," January 23, 1977.

# THE RETURN OF THE ANCIEN REGIME: THE GDR IN THE 1970's\*

BY MICHAEL KEREN

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Its place in the world, its place in Europe, and its place in Germany has always been the main preoccupation of the GDR (German Democratic Republic) leadership. In securing this place it made great strides during the first half decade of the 1970's. It has gained the sought for recognition from the great majority of the world's governments and has been admitted into the United Nations, and these trappings of acceptance seem to have been of great importance to the GDR. It has developed diplomatic relations with its European neighbors to the south and west and has been an active participant in the Helsinki Conference. And it has established a *modus vivendi* through the Basic Contract of 1972 with the bigger and richer part of Germany, the FRG (Federal Republic of Germany). This notwithstanding, its ambiguous relations with its German ex-sister state are still the chief constraint on and determinant of its economic policy.

The policy of *Abgrenzung*, of cutting itself off, of stressing its separateness as a socialist state rather than its Germanness, has been its driving force ever since the post-Ulbricht regime came to power. But ambiguity still remains. It is the West, the FRG, which still refuses to bury the hope of an eventual end to the *Grenze*, the border, between the Germanies. Thus for the FRG (and through it the Common Market as a whole) the eastern border of West Germany for customs purposes lies along the Oder-Neisse, the eastern border of the GDR, and not on the Elbe, the eastern border of the FRG. GDR goods can move into the Common Market without being subject to the market's external duty. This fiction, which brings some tangible benefits to the GDR, has not been affected by the treaties between the two Germanies which recognized the separateness of the two states. This sweet pill—the benefit of the GDR has been estimated at

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some DM 500 in 1970, over 25 per cent of the value of export to the FRG that year<sup>1</sup>—has its bitter side too. It encourages trade with the FRG and dependence on the object of Abgrenzung. The advantages of the ties to FRG are too great to forego: the share of FRG trade as a proportion of trade with the West or total trade fell slightly till 1965, but has been rising since (Table 1). One way of belittling this trade has been by under-reporting it, by not recognizing the various revaluations of the DM in GDR statistics and by fictionally keeping the DM on par with the GDR Mark.<sup>2</sup>

TABLE 1.—GDR TRADE WITH FRG, THE WEST, AND TOTAL TRADE, SELECTED YEARS

	1960	1965	1970	1974	1975
FRG data (DM, million):					
Exports to FRG.....	1,122.4	1,260.4	1,996.0	3,252.4	3,351.0
Imports from FRG.....	959.5	1,206.1	2,415.1	3,670.8	3,922.4
Balance of trade.....	162.9	54.3	-419.5	-418.4	-571.4
GDR data (SDR, <sup>1</sup> million):					
Exports to FRG as reported.....	241.3	294.0	449.6	716.7	(*)
Imports from FRG as reported.....	213.8	263.5	514.7	711.2	(*)
Balance of trade as reported.....	27.5	30.5	-65.1	5.5	(*)
Exports to FRG, corrected.....	241.3	308.7	517.6	1,020.4	(*)
Imports from FRG, corrected.....	213.8	276.7	592.6	1,012.5	(*)
Share of trade with FRG (percent):					
Exports to FRG in exports to West.....	45.1	39.9	43.3	44.6	(*)
Imports from FRG in imports from West.....	37.3	36.3	39.9	31.9	(*)
Exports to FRG in total exports.....	10.9	10.1	11.3	14.1	(*)
Imports from FRG in total imports.....	9.2	9.2	12.2	12.7	(*)

<sup>1</sup> Special drawing rights, i.e., 1971 US dollars.

<sup>2</sup> Data not available.

Sources: CMEA-FORTRAM by Jan Vanous, and statistical yearbook, 1976, p. 262f. FRG data—Thalheim, 1976, p. 32. Data on trade with FRG include trade with West Berlin.

The FRG need not compete with the GDR; the GDR cannot help but feel that it is taking part in an unending economic race with its Western sister, a race on whose outcome the very stability of the GDR may depend. The higher standard of living of the West is there for anyone to see, either on television or through the numerous West German visitors, another fruit of the treaties between the two Germanies. The GDR cannot permit its consumers to believe that they are falling too far behind in their consumption standards. Hence the great stress in any speech of the leadership on the many elements of social consumption, of the state financing private consumption by heavy subsidies, and on the stability of consumers' prices while inflation rages in the West. Hence also the dilemma: do we put everything into investments to be able to overtake the FRG and then increase consumption? This seems to have been Ulbricht's policy in the 1960's. But can we delay consumption that long, or need we raise consumption now? And shall we not then start to trail even farther behind the FRG in the future?

<sup>1</sup> R. Biskup's estimates, reported by *The Economist*, 6 November 1976, p. 70.

<sup>2</sup> Another point has been the systematic tendency of the GDR to report trade with the FRG as balanced, while FRG reports a large FRG surplus; the use made of the swing, the automatic lending facility in the trade agreement between the countries, makes it quite clear that the FRG's figures are correct. On the other hand, GDR deficits with other Western countries are greater in GDR statistics than in mirror statistics. The explanation which would make most sense is that some of the GDR's exports to the FRG get re-exported to other Western countries, but it could also be that the GDR manages to use FRG swing facilities for some imports from third countries.

It will be seen below that there is some doubt regarding the GDR's actual performance during the previous FYP (five year plan), in spite of official claims of great successes. Might it be that the leadership is afraid to admit failures because of the the fear of comparisons with the West? Is part of the disaffection, illustrated by the mass applications for emigration to the West (e.g., *New York Times*, 24 October 1976), the result of economic advance that is much slower than claimed?

The basic insecurity of the GDR shows also in its relations with the block and the USSR. Though it has the highest living standards of all the members of CMEA—slightly ahead of Czechoslovakia and far ahead of the Soviet Union itself, one suspects that if need be the Soviets would be ready to support consumption in the GDR, rather than weaken the morale in the block's westernmost shopping window: when CMEA terms of trade deteriorated for the GDR in 1975, the USSR allowed it to run up a sizable deficit.<sup>3</sup> Here its potential weakness gives the GDR strength and leverage. The same insecurity also creates a desire to strengthen the political and economic union between CMEA countries, a desire to lean heavily on the USSR. The reflection of this factor can be seen strongly in the GDR's foreign trade. Now, there are also strong economic grounds for a major producer of machinery, the soft good that has few outlets in the West, to secure CMEA markets—and primary supplies—through CMEA machinery. But political reasons transcend economics here.

Now to some internal characteristics. More and more eastern European countries have been meeting the labor constraints lately. The GDR had their experience many years ago. Its population, at 17 million against 60 million for the FRG, has been declining slowly since 1968. It is a war-scarred population, where many cohorts have been thinned by war casualties and made unbalanced, female heavy,<sup>4</sup> and many war-time or post-war cohorts were small from the start. The mass emigration to the FRG in the late 1950's has further depleted the population. The actual working population has been growing, partly because of the influx of new cohorts to the labor force, replacing those most badly mauled by the war.<sup>5</sup> With the capital-labor ratio constantly rising, substitution of capital for labor, or an intensive development strategy, has been a condition for growth for many years: STE (Soviet-type economies) have not so far found an efficient way of handling this process of capital deepening.

Some of the factors listed above have been with the GDR from its start. Systemic change has affected it in many ways which have been novel and unique to it. After Czechoslovakia's brief encounter with its Libermanist reforms in 1959 to 1962, the GDR embarked along on its own NES (New Economic System of Planning and Management) in 1963/64, which it discarded at the end of the '60s when the economy returned to the traditional STE fold. The opening part of this paper is concerned with the background to the rejection of reform, and with the experiences and developments of the first half of the 1970's.

<sup>3</sup> Of over 1,500m VM (Valuta Mark), over 350 million transferable Rubles.

<sup>4</sup> This applies to all pre-1930 cohorts (*Statistical Yearbook 1975*, p. 389). As it regards the population at large, this imbalance has been in decline: 57.5 percent females in 1946, 54.9 in 1960, 53.9 in 1970 and 53.6 in 1974 (*Statistical Yearbook, 1975*, p. 1).

<sup>5</sup> The working population has increased by 2 percent since 1970.

A topic which receives significant attention is the comparison between the performance of the economy under the NES reform regime and after it. Most Western economists are prejudiced in favor of market economies, and I am no exception. I would therefore have expected, all other things being equal, a reformed STE, with more market elements in its system, to do no worse than a highly centralized one. On the face of it we have in the GDR a rebuttal of this prejudice. Performance by all published indicators of output growth was slightly better during 1971–75, when the system reverted to centralism, in spite of the severe difficulties which hit it on the foreign economic front midway in the plan. The commentator can choose among three alternatives: he can admit that his prejudices are unfounded, which is a very hard thing to do; he can try to explain away the system changes; or he can try to examine closely the various published series and find in them biases which might lead to this paradoxical outcome. It is the third path I intent to take: there are indications that the 1971–75 figures are indeed upward biased, unlike those of 1965–70.

A correct reading of the East German recent growth record is of importance not only for the better understanding of the success of its economic system in the past. It is also an indispensable foundation for a critical look at the prospects of the Fifth FYP, 1976–80. It can also explain in part why, in spite of the respectable performance of the previous five years, the new plan is more conservative than the claimed accomplishments of the previous five years would have warranted.

The plan of this paper is as follows: section A anchors the system changes of 1970/71 and the conception of the 1971/75 FYP in the events of 1969/70 and provides the main outlines of the plan and its implementation. Section B surveys the economic scene in mid-decade, and the background to the 1976/80 FYP which section C describes and evaluates. Thus section A is mainly historical, section B is heavy on data analysis, and section C is a mixture of the two, except that its history is replaced by crystal gazing.

## A. THE EVENTS OF 1971–1975

### *I. The Background to the 1971–75 FYP*

The economic system which evolved in the GDR between 1964 and 1970, the New Economic System of Planning and Managing the National Economy (NES) has been described elsewhere,<sup>6</sup> and only its bare outlines will be given below. It is, however, important to note that the last two years of NES, 1969–70, differed significantly from previous years. In these two years the long-standing strategy of slack plans was given up in favor of fairly ambitious growth plans that were to transform the structure of the economy. The desire to build a more modern economy, giving precedence to technologically advanced products in such fields as electronics, chemicals, instrumentation and machine tools led to two changes in the direction of the economy. First, the planned increase in the volume of investment was raised,

<sup>6</sup> See, among others, Keren (1973b), Granick (1975), Leptin (n.d.), Leptin and Melzer (1976). For German sources—see Mitzscherling et al. (1971 and 1974), Leptin (1968), Mitzscherling (1972), and others.

without cutting down of planned increases of consumption, and the actual increase in 1969 was by 50 percent higher than in any previous year in the '60s (Keren, 1973b, Table 4). Secondly, a sharp differentiation was put between the treatment provided to those products receiving special attention, mostly the so-called structure determining products,<sup>7</sup> and all other products. The former, which included some intermediates in short supply in addition to the growth foci mentioned above, were to receive the primary attention of the planning hierarchy, while the planning of the remaining products was to be largely devolved to lower bodies in the hierarchy, such as associations<sup>8</sup> or even large enterprises. A strict priority system was set up to permit planning and plan implementation of these structure determining products to receive precedence over other products (Keren, 1973b, p. 574f.).

Did all this conflict with the conception of NES? Not really. NES did not aim at supplanting a plan with a market. Neither did it aim at decentralization for its own sake. What NES wanted to achieve was an orderly division of decision-making between upper and lower rungs in the hierarchy, so as to leave the top leadership sufficient time to make considered, knowledgeable decisions on the really important issues, and let lower echelons make derivative decisions on lesser issues.<sup>9</sup>

By 1968, when the new strategy for 1969/70 was being put into effect, NES had changed considerably the allocative mechanism in the GDR. The material supply system was most affected. Strict rationing of funded goods was limited to a very small number of commodities, and the expressed aim was to eliminate it entirely. Material balancing was largely devolved to associations and large enterprises, with SPC (the State Planning Commission) getting out of it altogether and the industrial ministries administering a very small number of balances. Much of inter-enterprise flow of semi-manufactures was organized bilaterally and in contracts, partly long-term "cooperation" contracts. In the production plan detail was reduced: the number of plan positions and other planning indicators fell sharply. Both in the plan and in the incentive structure a stress was put on deliveries, rather than production. Furthermore, profits became the main success criterion, and the weights of discretionary and variable bonuses in income was raised (Keren, 1973b).

The way by which priority planning, planning with structure determining products, affected the system was to divide the economy into two spheres, a highly centralized priority sphere, and a radically devolved remainder.<sup>10</sup> The effects of this were:

*Production planning.*—the number of plan positions, i.e., the detail of the centralized plan, was apparently further reduced.<sup>11</sup>

*Supply system.*—the number of centrally allocated, funded goods declined. Though I am not aware of numerical data on the division of balancing functions between the various levels of the hierarchy, there is little doubt that most of the balancing work was devolved to associations and enterprises, as in the last years for which we have

<sup>7</sup> Cf. Granick (1975), p. 146 and fn. 29: a list of priority products was never released.

<sup>8</sup> Vereinigungen volkseigene Betriebe, VVB. Cf. Keren (1973b).

<sup>9</sup> Keren, 1973b, pp. 557 and 564. Granick sees it in a similar light: 197c, p. 161f (in spite of his footnote 58, p. 161).

<sup>10</sup> This is not accepted by all students of the scene; some, cf. Erdmann (1968) saw in it the end of NES. Keren (1974) tries to reconcile the two views. The strongest published evidence that devolution in the GDR had by 1970 been very advanced can be found in Granick (1975).

<sup>11</sup> From 176 in 1967 and over 800 in per-NES days (Keren, 1973, Table 1). No details are known of the number of balances in 1968-70.

quantitative information (Keren, 1973, Table 1). Direct contracting between enterprises increased in importance, long-term contracts were encouraged and received a degree of priority in balances,<sup>12</sup> and balancing organs who did not honor them were even subject to paying indemnities to the parties (though we have no evidence on the actual implementation of this provision).

*The incentive system.*—profits were given greater importance than before, in that even export profits were to be included in profits.<sup>13</sup> Bonuses were to depend not, as in the past, on annually planned profits, but on their increase over the previous year (Gesetzblatt, 1968, pt. II, No. 67, p. 490-93), a provision that was intended to weaken some of the ill effects of the ratchet principle.

*Price formation.*—the price reform had ended in 1967 and had produced a price system in which disparities in the profit rate on turnover were lower than before. Now a scheme of dynamic price adjustments was instituted by which prices were to be equated continuously to costs plus profits, with profitability tied to total employed capital. The administration of price adjustment was to be largely in the hands of associations and enterprises (Gesetzblatt, 1968, pt. II, No. 67, p. 499f; Keren, 1973a and 1973b).

Whether this system of a closely centralized priority system within an economy relatively uncoordinated from the center was feasible in conjunction with prices that were not free to react to shortages, hence help in the allocation process, is a subject for speculation. In the tensions imposed by the taut 1969 and 1970 plans (Keren, 1973b, sec. D; Gamarnikov, 1974) it did not work, particularly since on top of tensions rooted in policy came those imposed by extremely harsh winters in both years which in themselves overtaxed the insufficient energy sector. Since priorities were apparently enforced quite harshly<sup>14</sup> shortages were concentrated in other areas. Though priority given to a product was to be extended to all its chains of suppliers, this did not work (Keren, 1973, p. 574) and it was in raw materials, semi-manufactures—castings, pumps and the like, and parts—that bottlenecks were encountered, and particularly so in the energy sector. Unplanned stocks accumulated, both of materials—because of supply problems, and of unfinished investment—because of an oversplintering of investment projects started.<sup>15</sup> A substantial deficit in foreign payments was also piled up.<sup>16</sup> Furthermore, there were signs of a certain breakdown of planning discipline: the usual practice in STE is to overallocate production targets, i.e., each ministry, association, usually creates reserves for itself by imposing on its subordinates higher production targets than it receives from its superiors.<sup>17</sup> We hear complaints that in 1970 in the GDR the opposite has occurred, and that even for some priority items only 95 percent of production targets were further allocated among subordinates (Keren, 1973b p, 581). Why organs in the hierarchy did not choose to fully protect themselves in the accepted

<sup>12</sup> That this must have been of some importance is paradoxically supported by post-NES decisions of the Contract Court, which had to stress that balances have priority, temporal as well as legal, over contracts (W-31/73, 1 Aug. 1973). This need not have been stressed had the previous practice not been different.

<sup>13</sup> I.e., for the purpose of calculating profits exports were valued at the price they actually fetched abroad, converted into GDR Marks according to conversion coefficients differentiated by commodity and currency (Keren 1976, p. 130).

<sup>14</sup> Cf. the 1970 semi annual plan fulfilment report (ND, 24 July 1970, p. 3).

<sup>15</sup> The GDR publishes no statistics on unfinished investment. As to other stocks these can be recomputed from data on the internal use of the net material product (NMP): see section B, below.

<sup>16</sup> See section B, below, for details.

<sup>17</sup> See, e.g., Levine (195).

way is not clear: the slacker atmosphere of previous years may have led them to believe that above-plan supplies would be forthcoming. Nevertheless, it is clear that such a symptom of breach of discipline must have been worrisome to the leadership and must have played a role in the decision to recentralize and impose tougher discipline.

One thing did not happen in 1970: in spite of the reported delays in contract fulfilments, bottlenecks and shortage of intermediate loss of output during the cold winter months, there was no decline in the reported rate of growth of output over previous years. NMP increased in both 1969 and 1970 by 5.2 percent, against 5.4 and 5.1 percent respectively in 1967 and 1968. This can be partly explained by a widespread resort to overtime (Keren (1973b), p. 580); further factors, related to measurement biases, are discussed in section B below.

To these internally propelled events, which set the stage for the principal decisions for 1971-75, were added two external events. One was the Polish riots of the autumn of 1970, which brought the downfall of Gomulka. These led to a reassessment of the position of the consumer's place in development policy. The other was the replacement of Ulbricht by Honecker, probably related to foreign policy issues, possibly also to the failure of the 1969/70 strategy (Keren, 1974). This latter event made new departures, radical changes in policy, much easier.

#### OPTIONS FOR THE 71-75 FYP

The bottlenecks and tensions of 1969/70 must have led to a down-scaling of the rate of smooth and stable growth the GDR economy was expected to be capable of providing in the near future. Total resources were to grow less than was intended before. The Polish disturbances which culminated in the toppling of Gomulka, and possibly the desire of the new leadership to gain popularity, gave precedence to satisfying consumers. Furthermore, the large import surplus of 1970 had to be balanced by a considerable increase in exports: it is unlikely that the huge loans taken later were planned at this early date. As seen in late 1970 and early 1971, these two demands preempted much of the expectedly rather small increase in output, and not much was to be left for investments. As to those investments that were available, a large chunk was needed to extend the bottleneck intermediates supplying sectors, particularly energy, and to complete previously started projects. Only when these tasks were well on their way would there be any freedom for a new conception of a growth policy to reassert itself.

Seen from this angle, GDR planners did not have much leeway in formulating their new FYP, at least not for the first stages. Still another element was imposed on them, a need for recentralization, at least for the interim period till the most serious bottlenecks were removed: where the price system is rigidly centralized, there is no alternative to a centralized allocation and rationing mechanism when significant imbalances exist. This still left an opening to a return to an NES-type regime once the imbalances were removed.

A third element on which a decision was to be made was the degree of pressure to apply to the economy. Soviet lore does not support a relaxation of the economy-wide effort just because of some bottle-

necks (Hunter, 1961; Levine, 1961). But here these were widespread, and there was a good ground for saying that tautness caused them (though it is also possible to content that it was priority *cum* planlessness that was to blame). Although the 1971 plan was not as a whole fulfilled, the targets set seemed, in view of past results, to have been realistic. Thus the impression one gets is of a decision, for the start at least, to adopt plans that are not overly taut.

## II. 1971 to 1975: Plan and Implementation

The key slogan of the 1971/75 FYP was retrenchment: slower growth, lower investment, lower balance of trade deficits.<sup>18</sup> At the same time, the rate of growth of consumption was, for the first time in a FYP, to exceed that of investment.

The overall growth targets seemed reasonable: NMP was to grow<sup>19</sup> by 4.9 percent annually, i.e., below the 5.2 annual rate achieved during 1966/70. Marketable industrial output<sup>20</sup> was to grow by 6.0 percent against 6.5 percent annually. The same applied to expenditure plans: retail sales were to grow by 4.1 percent annually against 4.6 during 66/70, and fixed investments by 2.3 percent.<sup>21</sup> Thus planned investment growth underwent the sharpest cutback from the 9.7 percent average 1966–70 rate. Two items were to increase: exports (to socialist countries), by 10–11 percent against 8.1 percent, and inventory investment by unspecified rates; both these items can be viewed as provisions for flexibility, providers of physical reserves and importable reserves and these, too, specify caution.

Of no less interest is the change in structural strategy, both short and long term, and this can be seen in both investment plans and in the changing structure of industrial output over time, as brought out by reading the FYP and the 1971 (and 1972) annual plans in conjunction. Of the reduced volume of investment, more was to be spent on the bottleneck sectors of energy and intermediate supplies on the one hand, and on residential house building on the other. In other words, investments embodied a short term aim and a longer term one, and both meant a new direction compared to the 1969/70 trend: instead of developing technologically advanced leading sectors, we have a short term attempt to overcome the dislocations created as a result of that strategy, and a longer term mark of the commitment to raising the standards of life. When one compares the growth rates of industrial output planned for 1971 with those left for the remainder of the FYP on the one hand to growth rates in 1970 on the other, one sees the following: the Ministry for Coal and Energy (previously Ministry for Primary Materials Industry) was to double its rate of

<sup>18</sup> See Table 9. It seems that even the growth rate of NMP by 27 percent, which appeared in the final version of the plan (FYP 71/75, p. 2) was higher than actually intended at the time, and was put in so as to keep the target at the mean of the 26–28 range of the FYP Directives (1971). Evidence to this is the pattern of planned growth provided in the plan: slow at the start, faster towards the end, with a 5.5 percent growth for 1975, a rate never attained in the '60s. It seems that to keep the total up at 27 percent the underfulfilled half percent of 1971 was just added to the 1975 total.

<sup>19</sup> See Tables 2 and 9 for these targets and for 1966/70 fulfilments.

<sup>20</sup> Industrielle Warenproduktion.

<sup>21</sup> Compared to the level of 1970. The investment target is stated in terms of the total volume planned over the FYP, rather as annual targets or as a target for 1975, as for all other items in the plan. In Table 9 below, which shows the increase in volume, growth of investments is greater than that of consumption. This is, however, misleading, because of the extremely rapid increase in investments during the 1966–70 period, at an annual rate close to 10 percent, would have meant that even if investments were to be maintained at their 1970 level their volume over 1971/75 would have been 21 percent above the volume during the previous quinquennial, so that an increase of 29 percent meant a very small increase above the 1970 level, an average growth of 2.3 percent (i.e., the figure in the text and in Table 2). ■

growth of output in 1971 and then keep expanding at an equal rate; the Ministry of Processing Machinery and Vehicle Production, which is responsible for many engineering enterprises that produce semi-manufactures and parts, was to increase its rate of growth in 1971 but reduce it later on. The Chemical and Electrotechnic and Electronic Industries' plans had an opposite temporal pattern; light industry and heavy machine building—a slowly accelerating pattern.<sup>22</sup>

#### SYSTEM CHANGES

In the plan itself there are few indications of the recentralization which was gathering momentum during 1971. There has, in fact, been no outright declaration of a shift in policy, no denunciation of NES, which is why there has been no unanimous agreement on the fact of the demise of NES.<sup>23</sup> There are a few references in the FYP Directives (1971) to the need for plan discipline, a few changes of hallowed phrases, such as from "planning and managing the national economy" to "managing and planning" the same.<sup>24</sup> Other changes were in the way the system was referred to. The Economic System of Socialism, the appellation which had replaced NES ever since 1967, is rarely mentioned in the latter half of 1971. Instead we meet the Economic System. The signs of change are in the host of legislation, which differs significantly from that of NES. Indeed, a draft batch of system regulations, published for public discussion in the spring of 1970,<sup>25</sup> which already had a somewhat stricter spirit than the 1968 batch,<sup>26</sup> was allowed to die by neglect.<sup>27</sup> The principal changes which the new legislation introduced were as follows:

*Production planning.*—The degree of detail in the plan increased significantly. The number of plan positions grew to 800 (Keren, 1973, Table 1), and SPC and other central state organs were responsible for balancing all of them.<sup>28</sup> Previously there were under 200, and two-thirds were balanced by associations and enterprises. Monthly targets were introduced (later replaced by quarterly ones), and the detail of the employment plan grew (Keren, 1973, Table 2). Investment planning, in particular, was highly centralized, both in the decisions on whether to launch projects, and in the control of the material composition of each project.<sup>29</sup>

*Material supply.*—There was a reversal of the trend of devolution of balances: SPC, which had not dealt with balancing since 1963, and the industrial ministries and other central state organs who had been responsible for some 500 balances in 1967 received the responsibility for 300 and 500 balances, respectively. As for the remainder, as against the stress for *eigenverantwortung*, "self-responsibility," of the balancer, a stress was put now on the hierarchical nature of the "balancing pyramid," of devolved balances being assortment

<sup>22</sup> The above is based on P. Mitzschelling, "DDR Wirtschaft 1971 bis 1976," (DIW-WB, 22/71, p. 155).

<sup>23</sup> English sources are Gamarnikov (1974), Keren (1973b, 1974), Leptin (1975), and Leptin and Metzger (1976). Naor (1973) disputes the change, and Granick (1975, who says he is taking a middle position, does in fact agree that the shift has taken place. In German, see Erdmann (1971), Beyer (1971), Mitzscherling (1972).

<sup>24</sup> A change that was apparently hastily introduced, because the English edition of the directives has the old version (FYP Directives, 1971-75, p. 20).

<sup>25</sup> (W. No. 18/1970 of 29 April 1970, Beilage; W. No. 19-20/1970 of 7 May 1970).

<sup>26</sup> (GBI, 1968, pt. I, no. 9, p. 223 ff., and pt. II, no. 67).

<sup>27</sup> Cf. Leptin (n.d.), p. 48 f.

<sup>28</sup> Brass and Steeger (1975, p. 1378) indicate that by 1975 this number had not changed.

<sup>29</sup> Gesetzblatt, 1971, pt. II, no. 1, p. 1 ff.

balances, of superiors being responsible for checking subordinates' balancing work.<sup>30</sup>

Rationing, in the guise of renamed Bilanzanteile, balance shares, i.e., the old Kontingente or fondy, which nearly disappeared in NES, reappeared openly, with special ordinances and mention in textbooks.<sup>31</sup>

*Incentives.*—The first step taken was to dethrone profits. This was done in a two-pronged action. First, profits were redefined: profits attained in violation of plans were not regarded as profits and were to be taxed away. This made profits to be what the superiors wanted them to be.<sup>32</sup> Next, marketable output (Warenproduktion) was put on par with profits as a principal success indicator. A progressively smaller part of bonuses was made dependent on profits. A plethora of physical indicators arose, and many statements can be found to the effect that no individual indicator can measure effectiveness.<sup>33</sup> If, to the senior manager, profits used to be a principal constraint,<sup>34</sup> it appears that physical indicators have now taken their place.

*Prices.*—It is most unlikely that the system of self administered, eigenverantwortlich (with own responsibility) price adjustment enacted in 1968<sup>35</sup> was working as designed during 1969/70: its delegated administrators lacked the proper incentives for that (Keren, 1973a). At the end of 1970, the first decree which charted the undoing of NES effectively recentralized price administration. By the decree, price reductions were to be a new part of the state plan, imposed on ministries, who were to disaggregate them to associations and so on.<sup>36</sup> We have no evidence on the working of the centralized price reduction scheme, but the situation since 1970 has changed. Then price reductions due to technological improvements were foreseen, whereas the price rises for imports of 1973–75 required mostly price increases, and these do not fit into the envisaged scheme.

There was, however, no general retreat from the principles of price fixing as determined in 1968. In one subsidiary direction there was even progress: the capital tax of 6 percent on all employed capital was to be applied equally to all industrial branches (with few exceptions) rather than at multiple rates as before.

There is really no dispute over the direction of the system changes. The argument is over their extent and over their durability. Was NES really completely undone? Were there changes there to stay, or was a return to NES envisaged? I believe that this post-1970 system has less to distinguish it from the system of the neighboring countries than from the pre-1970 regime, but only a study on the lines of Granick (1975) of Poland, Czechoslovakia, and the GDR can establish the true facts. As for durability—by not repudiating NES (and this would have been too much of a slap at Ulbricht's face when the changeover took place, and may not have really been necessary), the options for a return to a NES-like system have been retained. As will

<sup>30</sup> Gesetzblatt, pt. II, p. 578 ff. Cf. also Brass and Steeger (1975), who claim that central balances in 1975 covered 55 percent of industrial output, which makes clear that the aim still is to cover as much as possible in the central balances.

<sup>31</sup> Cf. C.-J. Straub et al., *Die Materialwirtschaft*, 4th Ed., Berlin (East): Verlag Die Wirtschaft, 1973.

<sup>32</sup> Finanzierungsrichtlinie für 1971 (Gesetzblatt, 1971, pt. II, no. 6, p. 41), (Keren, 1973b, p. 585).

<sup>33</sup> Cf. Section C-IV.

<sup>34</sup> Granick (1975).

<sup>35</sup> See section A-I above.

<sup>36</sup> (G B1, 1970, pt. II, no. 101, p. 749).

be seen below, these options have not been used, and for reasons to be discussed below seem to be less and less likely to be exercised in the foreseeable future.

#### THE IMPLEMENTATION OF THE 71/75 FYP

The figures of Table 2 tell some of the events of the past half-decade.<sup>37</sup> Section B below will subject some of these figures to closer scrutiny. They do, nonetheless, help to show the general flow of the half decade.

*Environment.*—There were two unforeseen factors which influenced the outcome of the FYP. One was favorable, the apparent rapid growth in the three mid years of the plan, 1972–74. The other was unfavorable, the sharp deterioration of terms of trade after 1973, affecting trade with the nonsocialist world in 1974 and with CMEA too in 1975.

The 1971–75 FYP started off slowly in 1971. In actual fact, 1971 was out before the final enactment of the FYP, so that the relatively poor results of the plan could be incorporated into the finally published version.<sup>38</sup> 1971 suffered from poor rainfall, which affected agricultural crops adversely. Furthermore, the change in direction, with higher stress on consumers' goods—and the plan was changed in January 1971 to increase further the share of consumers' goods—required the transfer of resources, which was apparently accompanied by friction and losses unforeseen by planners. These two came on top of the bottlenecks created in 1969/70. The shift in policy can be seen in Table 2 in the greater planned increase in retail sales than in investment, and in NMP planned to rise faster than both. Foreign trade did not develop as planned: imports were supposed to remain constant, but increased, exports—to grow much more than they did. The result was a trade deficit with the west only slightly smaller than in 1970 (Table 13).

With 1972 started the run of three good years. The average reported annual rate of growth of NMP in these years was 5.9 percent, quite a remarkable rate, as will be argued in section B. In 1972 and 1974 the weather was favorable, which led to high agricultural output; and no exceptional attempts were made to keep the trade deficit from mounting. With the worst overcome and the realignment of output in favor of a higher growth of consumption goods sectors completed, the additional degree of freedom granted by the decision to borrow abroad may have provided the inflexible GDR system with easier growth possibilities. Another factor that may have helped was the resort to extensive overtime work.<sup>39</sup> It should be noticed that retail supplies kept pace with the increase in money incomes: when overtime was used to overfulfill plans, care was taken to increase the availability of goods as well as income and money.<sup>40</sup>

Consumption, or retail sales, did not only grow above the annual plan levels; these latter were already higher than the long term targets (Table 2). With fixed investments the opposite was the case: except for 1971 and 1972, when investments were to decline or grow slowly and the targets were in actuality surpassed, targets were

<sup>37</sup> This section draws heavily on P. Mitzscherling (DIW-WB, 5-6/72, 5/73 and 4/74); and on D. Cornelsen (DIW-WB, 6/75 and 5/76).

<sup>38</sup> See footnote 18.

<sup>39</sup> The substantial difference between planned and actual disposable money income in 1972 and 1974 (and also in 1971) may have been partly caused by overtime. Cf. DIW-WB 5/73, 4/74, and 6/75.

<sup>40</sup> Cf. Portes (1974 and 1976). See also B below: it is quite likely that the increased volume of retail sales hides some price changes.

TABLE 2.—ANNUAL PLANS AND THEIR IMPLEMENTATION, 1971-75: PRINCIPAL INDICATORS (PERCENTAGE RATES OF GROWTH)

	Fiscal year plan target <sup>1</sup> average	1971 <sup>2</sup>		1972		1973		1974		1975 <sup>3</sup>		1976 <sup>2</sup>		1977 Plan target
		Plan target <sup>3</sup>	Actual fulfillment <sup>4</sup>											
NMP <sup>5</sup> .....	4.9	4.9	4.5	4.6	5.7	5.7	5.6	5.4	6.4	5.5	4.9	5.5	3.7	5.5
Industrial output <sup>6</sup> .....	6.0	5.6	5.5	5.5	6.3	6.5	6.8	6.7	7.0	6.3	6.4	6.0	5.9	5.1
Industrial labor productivity <sup>7</sup> .....	6.2	5.4	4.5	5.0	5.0	5.7	5.8	6.0	6.3	5.6	5.8	5.5	6.0	5.1
Investment in fixed assets <sup>8</sup> .....	2.3	-1.5	.6	2.0	3.9	9.0	8.0	5.3	4.2	4.4	3.8	6.5	6.8	6.5
Retail sales <sup>9</sup> .....	4.1	2.4	3.9	4.0	6.0	6.2	5.8	5.2	6.1	4.6	3.5	4.0	4.3	4.0
Disposable money income <sup>10</sup> .....	4.0	2.0	3.4	3.9	6.0	5.3	5.8	4.5	5.0	4.4	4.0	4.0	4.0	4.0

<sup>1</sup> Fiscal year plan target 1971-75 (1971).

<sup>2</sup> Signifies poor weather conditions (weather conditions in 1973 were mixed).

<sup>3</sup> Annual plans, various years.

<sup>4</sup> Fiscal year plan target 1976-80 (1976).

<sup>5</sup> Target was raised in January 1971. Produziertes Nationaleinkommen, Statistical Yearbook, 1976,

p. 13.

<sup>6</sup> Industrielle Warenproduktion, plan fulfillment reports, various years.

<sup>7</sup> Arbeitsproduktivität in der Industrie (ministerially directed industry only); plan fulfillment reports (preliminary figures on Warenproduktion per employee, the units in which plan data are stated; final data exist for Bruttoproduktion per employee only, and are invariably lower: 4.9, 4.2 5.7, 6.0, 5.3 for 1971-75).

<sup>8</sup> Investitionen, Statistical Yearbook 1976, p. 41.

<sup>9</sup> Einzelhandel Umsatz, Statistical Yearbook, 1976, p. 251.

<sup>10</sup> Nettogeldeinnahmen der Beilkerung, Statistical Yearbook 1976, p. 310.

sharply increased in the latter annual plans and, in turn, were underfulfilled. Thus when the leadership felt that there were signs that the economy had in it a greater growth potential than expected, resources were to be diverted into investments; but such shifts are not easy to accomplish within a short period of time.

Another shift in policy, which can be seen in the planned utilization of output, is in the planned increase of the import surplus in 1973 and 1974. In the former, retail sales and investments were to rise faster than NMP, and in the latter at about the same rate. As a result the trade deficit with the West rose to over \$800M in 1973 (Table 13).

1974 was the last of the good years. It was also the first to follow the drastic increases of oil and other raw material prices during and following the last quarter of 1973 (which was not envisaged when the 1974 plan was being drafted and not taken seriously into consideration when it was enacted). As it turned out, 1974 was the year of fastest growth since the 1950's and a year in which the trade deficit with the West mounted again, rising to nearly \$900M. In addition, the GDR had her first ever deficit, one of over \$150 million, with the developing countries.<sup>41</sup> Rough calculations show that in real terms nonsocialist imports rose by only 3 percent above the 1973 level, and exports increased by some 13 percent; but the overall real volume of imports and exports increased at about the same rate of over 8 percent. Thus the attempts at rectifying the deficit were not pursued with too much zeal in 1974; the aim may have been not to disrupt the impressive record of the 25th year of the GDR.

The change in directions and fortunes came in 1975. The pressures which were to mold the 1976-80 FYP were already felt (see B below) and the need for new capacities to increase exports led to some priority to investments, not in the published plan but in the implement version. The amount of overtime was apparently reduced to allow the consumption goods output to be cut (DIW-WB 5/76), and this, joined by a dry summer and possibly the attempt to change the structure of output in favor of investments goods led to the underfulfillment of the NMP target. Though industrial production increased as planned, the internal use of resources had to be cut: the real volume of exports grew by more than imports (7.8 against 5.0 percent—Statistical Yearbook, 1976, p. 264)—which did not save the deficit from growing even further. Both investment and retail sales fell below the target, but retail sales took the brunt of the decline (with disposable money income also rising below plan, but by a lesser amount).

## B. THE ECONOMY BETWEEN THE PLANS: THE ENVIRONMENT OF 1975/76

### I. *The Outcome of the 1971-76 FYP*

#### OVERALL GROWTH

Table 3 presents several alternative measures of total GDR products since 1965. In column 1 is the official produced national income or net material product (NMP) series, in constant 1967 Marks.<sup>41a</sup>

<sup>41</sup> Due mainly to higher prices and volume of oil—much of it in trade with Iraq (Statistical Yearbook, 1976, p. 272).

<sup>41a</sup> Mark is the current name of the GDR currency. It differs from the Valuta Mark (VM), the unit used in foreign trade statistics. The FRG currency is referred to by its initials, DM.

The other series are western recomputations of total product: column 2 is the West Berlin based German Institute of Economic Research (DIW) gross domestic product (GDP) series, also in 1967 Marks; column 3 is the GNP series in U.S. Dollars, constructed by the CIA, and column 4—a similar series, an index, by Alton et al.

TABLE 3.—GDR TOTAL PRODUCT—ALTERNATIVE MEASURES

	NMP, <sup>1</sup> official figures, 1967 (million mark)	GDP, <sup>2</sup> DIW, 1967 (billion mark)	GNP	
			CIA, <sup>3</sup> 1975 (billion U.S. dollars)	Alton <sup>4</sup> index, at 1968 a.f.c.
<b>PART I: ABSOLUTE FIGURES</b>				
1965.....	84, 175	107. 2	45. 2	100. 0
1970.....	108, 720	137. 7	55. 5	116. 6
1971.....	113, 562	144. 0	57. 8	119. 0
1972.....	120, 090	151. 7	60. 6	123. 4
1973.....	126, 840	159. 7	63. 4	127. 0
1974.....	135, 005	169. 4	66. 8	133. 3
1975.....	141, 661	NA	70. 2	137. 6
<b>PART II: RATES OF GROWTH (PERCENT PER ANNUM)</b>				
<b>1965-70:</b>				
Average.....	5. 3	5. 1	4. 2	3. 1
Mean deviation.....	3. 7	NA	NA	20. 1
<b>1971-75:</b>				
1971.....	4. 5	4. 6	4. 1	2. 1
1972.....	5. 7	5. 3	4. 8	3. 7
1973.....	5. 6	5. 3	4. 6	2. 9
1974.....	6. 4	6. 1	5. 4	5. 0
1975.....	4. 9	-----	5. 1	3. 2
Average 1971-75.....	5. 4	δ (5. 2)	4. 8	3. 4
Mean deviation.....	10. 6	NA	-----	23. 0

<sup>1</sup> Produziertes Nationaleinkommen, Statistical Yearbook, 1976, p. 13.

<sup>2</sup> Bruttosozialprodukt, Wilkens, 1976.

<sup>3</sup> CIA, 1976.

<sup>4</sup> Alton, 1976. Corrected information supplied Mar. 3, 1977.

<sup>δ</sup> Estimated according to past deviation of GDP from NMP. Mean deviation-average absolute deviation of actual from mean rate of growth, normalized by the average rate of growth

$$MD = \frac{1}{\bar{g}} \sum_{t=1}^5 |g_t - \bar{g}|$$

where  $g_t$  is rate of growth in period  $t$ , and  $\bar{g}$  the average rate of growth over the fiscal year plan.

Note: NA—not available.

Two distinct questions can be asked about total product growth: first, how does the GDR leadership view the outcome of economic activity over the FYP? The second is, what are the level and rate of growth of total product that we should use for comparisons with other countries or over time? In the first case it is obviously the GDR statistical series we should use, while in the second we should examine all available series for what they can offer. Both questions are of interest, but the second will be taken up first.

*Rate of growth of product.*—The average annual growth rate of total product varies between 4.8 and 5.4 percent over the five-year span for three of the series, 3.5 percent for the Alton series. The differences between all \* \* \* series but the latter are thus immaterial. The annual rate of growth common to the three series, which amounts to some 5 percent per capita \* \* \* since there has been no significant change in population (or labor force), is respectable by any standard of comparison. Furthermore, all \* \* \* series show a higher rate of growth in the first half of the 1970's than in the second half of the 1960's, i.e., the highly centralized later period has an edge, if only a

narrow one, over the reform period of the sixties in total growth (though not in total factor productivity growth—see Table 8). By all these measures performance during 1971–75 has been very satisfactory. There is, however, one major defect with all GDR and other socialist aggregate countries' statistics which affect all three series and which may lead us to conclude that all series overstate performance during the '70s. The (well known) problem lies with the poor separation between quantity and price changes in statistics, due to a lack of separation of power between statisticians and the management hierarchy. A price creep is introduced whenever a new product is added in production and its constant price used in output statistics is fixed at a level that is too high relatively to the older products. There is ample evidence that the practice exists, in general, and in the GDR too.<sup>42</sup>

There is, however, reason to believe that there has been an acceleration of hidden price changes in the '70s. First, there is a theoretical point: the incentives to producers to try to raise the value of their output (and profits) depends critically on the basis on which their performance is evaluated and rewarded. If plans were, indeed, slack before 1969, and if there was no incentive to overfulfill such targets as profits, as is ably argued by Granick, and if, in addition, the main rewards were tied to physical tasks such as the introduction of some new technology or the timely implementation of contracts, whose fulfillment would not be affected by price changes,<sup>43</sup> there would be less of an incentive to raise prices by introducing sham new products in the pre-1969 period than later on. With greater tautness, i.e., greater difficulty of fulfilling the basic total output and profits targets, and with a stronger weight attached in the bonus regulations to these indicators (cf. section A), the incentives are much stronger. Evidence for greater tautness during the '70s then up to 1969 is contained in Appendix A.

Furthermore, the highest echelons in the state and party apparatus have an interest in plan fulfillment. Thus at times of hard to fulfill plans their policing of hidden price rises is only half-hearted. It will be seen below that there is evidence that some hidden price rises were planned from above, so to say. And lastly, import prices were much more stable in the '60s.

None of the three series is unaffected by these hidden price rises. The GDR series, because there is no independent statistical check on prices, once a product has been approved as new by the production hierarchy. The DIW series, because it is based in its entirety on GDR official fixed price data (though they have tried to introduce a correction for price changes—see below). The CIA series, which apparently is based on GDR quantitative data, is least affected: in fact, it may have a downward bias, because of the delay in adding new commodities to the list, even though the initial selection may be biased by the inclusion of fast growers. The physical series, however, include some value series for machinery and other heterogeneous commodities, and these are the very industries that are usually the main offenders. The only series whose overall rate of growth is substantially lower than that of the official series is the Alton series.

<sup>42</sup> Cf. (Bornstein, 1976), and bibliography in fn. 12 in that paper. For the GDR see DIW-WB No. 5-6/72 p. 48 and No. 12/76, p. 113; Frankfurter Allgemeiner Zeitung, 20 Jan. 1975.)

<sup>43</sup> Cf. Granick (1975), p. 199 ff.

But this series too, in its later version (given in the Table) shows higher growth in the later period. Unfortunately this series cannot serve as an independent check, because their original figures for the 1970's for the most important sector of industry were rejected by Alton, and new figures based on GDR data substituted. Hopefully a future reworking of this series will furnish new data.<sup>44</sup>

There is some indirect evidence on these price changes. But first—why did price rises have to be hidden? On November 19, 1971 there appeared a communique from the Politbureau and the Council of Ministers entitled "Measures for the Stability of Consumers' Prices." It promised that (1) during the 1971-75 FYP there must be no increases of consumers' goods prices; (2) that the plan has to assure the supply of the population with goods in the low and middle price groups; (3) it names various ministers and the Workers and Peasants-Inspectorate to police the enforcement of prices and price fixing regulations; (4) it issues a strict warning against enterprises fixing prices which counter the law, or trying price manipulations (ND, November 19, 1971, p. 1). Were these measures an attempt to calm the populace by telling them that price rises will be stopped (perhaps a belated effect of the Polish riots of the previous year)? Or was it, as Granick suggests, just a way of telling enterprises that changing the bill of goods to raise profits was against the rules of the new game? (Granick, 1975, p. 224). Whatever the initial cause, the very clear provisions of the communique tied the hands of the government: it was not that average prices were to be held, but that no prices were to be raised. Thus if any consumers' prices had to be raised, the rise had to be hidden.

There are two indirect bodies of evidence on price rises. New budgetary material for the previous 3 years hints that at some times at least a substantial part of increased consumers sales was due to higher prices rather than to higher quantities. Table 4, which extends a table constructed by Vortmann and Ruban (DIW-WB 45/76) and based on their approach, tells the story. Budget fulfilment reports which provide a breakdown of taxes and subsidies make possible the calculation of retail sales to consumers at producers' prices. This is based on the assumption that the turnover tax is now largely levied on consumers' goods.<sup>45</sup> When we look at the rate of change of sales at retail and producers' prices, we find the following: for foodstuffs sales at enterprise prices increased by about 0.5 percent faster than retail sales. Since prices of a relatively fixed basket of foodstuffs are not so easy to change surreptitiously, the real volume must correspond to sales at retail prices, and higher enterprise prices must indicate rising costs which led to high subsidies. Now, these higher costs were as likely to afflict the production of industrial goods, though technical progress should be faster here. However, here we find that for these goods sales at producers' prices rose less, in 1975 much less, than retail sales. The implication is that the volume of sales is better represented by sales at producers' prices, and the difference in the two rates represents price rises, most likely by the introduction of

<sup>44</sup> See Alton et al., 1976, p. 21 for calculation and explanation.

<sup>45</sup> Produktionsgebundene Abgabe. Since the price reform of 1964-67 and the reform of enterprise taxation which introduced a uniform 6 percent capital and a differentiated profits tax which syphons off any remaining profits not designed for any of the enterprise funds, there has been no reason for maintaining any turnover taxes on producers' goods. But see discussion below.

TABLE 4.—RETAIL SALES AT CONSUMERS' AND PRODUCERS' PRICES,<sup>1</sup> 1973-74

I. BILLION MARK (CURRENT PRICES)				
	1973	1974	1975	
Total retail sales.....	74.6	79.2	81.9	
Subsidies to foodstuffs and industrial goods.....	+7.4	+7.9	+8.4	
Turnover taxes.....	-25.8	-27.9	-30.3	
Value of retail sales at enterprise prices.....	56.2	59.2	60.0	
Retail sales of foodstuffs.....	26.3	27.3	27.9	
Subsidies on foodstuffs.....	+6.4	+6.8	+7.2	
Retail sales of foodstuffs at enterprise prices.....	32.7	34.1	35.1	
Retail sales of industrial goods.....	48.3	51.9	54.0	
Subsidies on industrial goods.....	+1.0	+1.1	+1.2	
Turnover taxes.....	-25.8	-27.9	-30.3	
Sales of industrial consumers' goods at enterprise prices.....	23.5	25.1	24.9	
II. ANNUAL RATES OF INCREASE (PERCENT)				
	1974		1975	
	Retail prices	Enterprise prices	Retail prices	Enterprise prices
Total retail sales.....	6.2	5.3	3.5	1.4
Retail sales of:				
Foodstuffs.....	3.8	4.3	2.2	2.9
Industrial goods.....	7.5	6.8	4.0	-1.8

<sup>1</sup> See text for explanation.

Sources: Retail sales: Statistical Yearbook, 1976, p. 249. Taxes and subsidies: Vortmann and Rubin, DIW-WB 45/76.

new, higher priced goods.<sup>46</sup> The objection might be that high increases in productivity can also be taken up by increases in turnover taxes. To this there are two replies. One is that the net profits tax can do this just as well, and in all decrees it is indeed this tax which should change in response to cost changes. The receipts of this tax did indeed rise sharply, but there are no indications that there has been a wide-scale reduction of enterprise prices. The other is the size of the increase in these tax receipts, faster than is justified by increases in productivity during a year when the trend of increasing raw material prices has been accelerating sharply.

The additional body of evidence is from the periodic purchasing power studies of the GDR Mark, which are performed from time to time by the Berlin DIW. Collated with information on price movements in the FRG, these purchasing power parities provide an implicit GDR price index with FRG weights.<sup>47</sup> Now, this is not the true price index which we are after, but it does indicate that prices were not as fixed as implied by the official price index, as well as the NMP consumption price deflator. Table 5 brings the relevant information: whereas the official cost of living index shows hardly a change, the FRG weighted one shows slight change. This may indicate that prices of some goods, particularly those whose weight is higher in the

<sup>46</sup> It is interesting that in the list of retail prices reported in the Statistisches Jahrbuch der DDR 1975, the only price changes since 1970 are in 13 out of 24 industrial goods and in an alcoholic beverage. In all the 5 cases of price increases, there is a claim of a change or an improvement in the product; the alcohol is the only exception. For only one of the eight commodities whose prices have been reduced does such an explanation appear (p. 303).

<sup>47</sup> See Appendix B.

higher consumption FRG basket, which may therefore represent higher income households, have increased in price. It may be thought that this price creep is not shown in the consumers' price index because of the narrow coverage of that index. That this is not so is shown by a comparison between the consumers' price index and a domestically used NMP deflator for retail sales available for those years when the latter index was reported both in fixed and current prices: as can be seen, this index, too, shows fixity for the 1960-1967 period, though prices then should show some change (Table 6).

TABLE 5.—*Implied annual changes in GDR consumers' prices, 1960-78*

	<i>Percent per annum, average</i>
4-member wage earner family:	
Mid-1960 to mid-1969.....	1.4-1.4
Mid-1969 to beginning 1973.....	3.7-3.6
2-member pensioner family:	
Beginning 1960 to mid-1969.....	1.4-1.7
Mid-1969 to beginning 1973.....	3.4-3.5

Source: Appendix B.

TABLE 6.—INDICES OF CONSUMERS' PRICES, 1960-75

Year:	Index of retail and services prices for entire population		GDP deflator for retail sales
	All goods and services	Industrial goods	
1960.....	100.0	100.0	100.0
1961.....	100.1	99.7	99.4
1962.....	100.4	99.3	100.3
1963.....	100.3	99.3	100.0
1964.....	100.4	99.8	100.1
1965.....	100.1	99.8	100.0
1966.....	100.1	99.5	100.2
1967.....	100.0	98.9	99.9
1968.....	100.2	98.7	na
1969.....	100.0	98.3	na
1970.....	99.9	98.0	na
1971.....	100.2	96.7	na
1972.....	99.9	96.2	na
1973.....	99.5	95.9	na
1974.....	99.2	95.1	na
1975.....	99.4	94.7	na

Sources: Statistical Yearbook, 1975, p. 304; 1976, p. 306; 1968 and 1966, p. 50.

Now the implied price changes are really negligible when compared to price changes in the West. But they do give some indication that the growth rate of all series based on the official product series, and, as claimed above, all series depend on it in part, exaggerate the growth of GDR output. Table 7 is based on a recent DIW study comparing GDR and FRG national incomes. It presents GDR GDP under two assumptions: one, that prices did not rise, as claimed in GDR indices; second, that prices of consumers' goods increased annually on the average by 1.5 per cent and investment goods by 2.5 per cent.<sup>47a</sup> The latter they consider to be the most extreme view tenable of GDR price changes and the GNP estimate for 1974 associated with it is, consequently, the smallest one compared to 1967. This:

<sup>47a</sup> (Wilkens, 1976a, p. 113n). Support for the assumption of unrecorded price rises for investment goods can be found in (WW, 7/75, p. 1005, which lists results of, appropriately, surveys that show investment price rises for, apparently typical, basic chemical installations of some 3.5 percent annually, and a range of between a 4 percent annual decline and a 14 percent increase.

TABLE 7.—GDR GDP AT FIXED 1967 PRICES, 1967 AND 1974 (MARK, IN BILLION)

	1967	1974	
		Variant A <sup>1</sup>	Variant B <sup>2</sup>
Sector of origin:			
Agriculture and forestry.....	13.7	15.6	15.1
Industry and construction.....	71.6	108.4	94.4
Trade and transport.....	19.4	29.0	26.1
Services.....	15.2	18.8	18.8
Corrections <sup>3</sup> .....	-2.0	-2.3	-2.3
Total GDP.....	117.8	169.4	152.1
Annual rate of growth (percent).....		5.3	3.7

<sup>1</sup> Assumes no hidden price rises.

<sup>2</sup> Assumes the following price rises: In agricultural and forestry products, 0.5 percent; industry and construction, 2 percent; trade and transport, 1.5 percent per annum on the average.

<sup>3</sup> Unallocated subsidies and capital repairs.

Sources: Wilkens 1976b, p. 160. Assumptions of price changes: Wilkens 1976a, p. 113.

estimate implies an average annual growth of GNP—that of NMP would be very similar—of 3.5 per cent instead of 5.3 per cent. The truth, they seem to imply, is somewhat nearer the official figure, say 4.5 per cent between 1967 and 1973, which is still quite respectable.

This does not yet provide us with a comparison between price rises in NES times and in the 1970's. The data in Table 5 indicate a higher rise in the '70s than in the '60s, but the '60s include both NES and pre-NES years. However, the calculations based on pensioners' baskets even show a decline in prices between 1966 and 1969. Further evidence can be gleaned from the purchasing power estimates for wage earners' families at the beginning of 1966 which used only GDR weights. There is little theoretical justification for using them in the fashion outlined in Appendix B. If we disregard theory and do, nonetheless, use the estimates we find the following: a price rise of 1.2–1.6 per cent in 1960–1966; stable prices in 1966 to 1969; price rises of 1.3 to 1.5 per cent between 1969 and 1973—all at annual rates. This may be an indication that prices during the main part of NES were indeed stable, and that the rises and overstatement of growth does indeed belong mainly to pre- and post-NES years. One should, however, bear in mind all the caveats: first comes the theoretical one, i.e., there is a question of what exactly these implied indices represent. Next, the statistical accuracy of the purchasing power parity estimates themselves: we have no data on the accuracy of the estimates, and a shift, e.g., raising to 1.10 the 1969 estimate for pensioners, could change the ranking of price changes in the two periods.

The final estimates of the growth of NMP are presented in Table 8. In addition to official data and those based on the low estimate of Wilkens (Table 7), there are compromise estimates. The latter assume that total price changes were in between the official no change and the 11.4 percent between 1967 and 1974 which is Wilkens' extreme estimate, but limits the change to the period starting in 1969. This provides us with a 0.9 percent unrecorded price rise, by which all growth data from 1969 on were deflated. The resulting rate of growth is 4.9 percent p.a. for 1965–70, 4.5 percent p.a. for 1970–71, i.e., a slight deceleration in the post-NES era. The growth rates of GDP would be lower by 1–2 tenths of one percent.

TABLE 8.—GROWTH OF OUTPUT, INPUTS, AND FACTOR PRODUCTIVITY, 1965–70, 1970–75

	[Annual averages, percent]				
	NMP	Labor	Capital	Factor productivity	
				$\alpha=0.3$	$\alpha=0.5$
1965–70:					
Official figures.....	5.3	0	4.9	3.8	2.9
Corrected figures.....	4.9	0	4.9	3.4	2.5
1970–75:					
Official figures.....	5.4	.06	5.8	3.7	2.5
Low estimate.....	3.8	.06	5.8	2.1	.9
Compromise.....	4.5	.06	5.8	2.8	1.6

Sources: NMP: official figures—see table 3. All other figures based on table 7, which implies, according to variant B, a price creep of 1.5 percent per annum. The low estimate deducts this percentage from the annual growth figures of 1970–75. The compromise figure assumes an average real growth of 4.5 percent per annum, but divides the implied price rise over only 6 of the 7 years, 1968 to 1974, which implies a price rise of 0.9 percent per annum. This price rise has been imputed for the years 1969–75, and the growth rate for these years has been correspondingly reduced. The results of this are given in the lines entitled "corrected figures" for 1965–70, "compromise" for 1970–75. Labor: Statistical Yearbook, 1976, p. 15; Labor in productive branches. Capital: Statistical Yearbook, 1976, p. 4; Capital in productive branches. Factor productivity: Rate of growth of NMP minus rate of growth of labor times  $(1-\alpha)$  minus rate of growth of capital times  $\alpha$ , where  $\alpha$  is the capital elasticity of NMP.

It should be remembered that this rate of growth of output was attained with hardly any growth of labor inputs: total employment, which is now around the 8 million mark, increased by under  $\frac{1}{2}$  percent during 1971–75, by under  $\frac{1}{4}$  percent during the previous FYP. Employment in the productive sphere did not change in any perceptible manner (Statistical Yearbook 1976, p. 15). Capital stock grew by 4.3 percent annually in the economy at large, by 5.8 percent annually in the productive branches, as against 3.5 and 4.9 percent between 1965 and 1970 (Statistical Yearbook 1976, p. 14). Attempts at the estimation of the rise in factor productivity under the various assumptions are presented in Table 8. Since we have no information on the share of labor and capital in output, two different assumptions on the capital elasticity of GDR NMP were tried, 30 and 50 percent. Under the former, which should be nearer the truth, total factor productivity rose by nearly 3 percent per annum in the 'seventies, by nearly 3.5 percent in the late 'sixties. Official NMP figures would put the rates closer together and nearer 4 percent. The same calculations cannot be made for GDP, since the DIW series does not extend to 1975. A rough estimate by analogy with past years of the 1975 GDP, would make for a growth of factor productivity, assuming official estimates of price stability and a 0.3 capital elasticity, of 3.6 percent, i.e., nearly identical with the growth of factor productivity in the productive sphere. Under all other assumptions regarding price changes results would also be almost identical with those for NMP. With the higher capital elasticity factor productivity in the economy at large would show a slightly faster rate of growth.

All this, however, is not really relevant for the examination of the outcome through the eyes of the GDR leadership. For them the only relevant measure of growth is the official NMP series, and though they may be aware of unrecorded price rises it is unlikely that they have ever quantified them and are clearly aware of the relation between them and the product series.

Bare growth data are not all: were the FYP targets fulfilled? Table 9 presents some of the relevant data. Resources available to the economy, viewed either as NMP or industrial output, increased

by more than the plan prescribed; in the previous 66/70 plan they were closer to the minimum targets. On the utilization side we find significant overfulfilment of both retail sales targets and investment, i.e., of both major local absorption items, by more than the NMP target was overfulfilled. On public consumption and inventory investment targets we have no information, but even gross underfulfilment of these—which is unlikely—would not have saved total local uses from having been in excess of plans by a wider margin than NMP. What gave way was the export surplus: the original plan envisaged exports to rise much faster than imports to regain equilibrium of foreign payments. The real volume of exports did indeed rise faster than imports (55 as against just over 40 percent): there may have been sufficient reserves in the plan for this surplus to have sufficed, had there not been the radical deterioration in the terms of trade. In the event this deterioration meant that the balance of payments at the end of the period was worse than at its beginning. These issues are more fully discussed below.

TABLE 9.—1966-80 GROWTH TARGETS AND THEIR FULFILMENT (SELECTED INDICATORS)

	[In percent]				
	1966-70,	1971-75		1976-80	
		A	P <sup>a</sup>	A	P <sup>a</sup>
NMP f.....	29.2	27	30.3	27-30	27.9 <sup>c</sup>
Industrial output <sup>d</sup> .....	37.0	34	36.1	34-36	34.0 <sup>e</sup>
Investments f.....	52.0	29	34.5	27-29	<sup>b</sup> 27.9
Inventory investment <sup>g</sup> .....	3.4	NA	63.3	NA	NA
Retail sales <sup>c</sup> .....	25.4	22	28.1	20-22	21.5
Disposable money income.....	22.0	22	28.8	20-22	21.4
Foreign trade <sup>c,i</sup> .....					
Turnover.....	60.4	NA	f(48.1)	NA	NA
Exports.....	49.2	*60-70 f(54.9)	82.5	*f50	NA
Imports.....	72.5	NA f(41.6)	93.0	NA	NA

Key to symbols: P—plan; A—actual fulfilment; d—draft, in Directives; c—at current prices; 2—to socialist countries; h—see text for discussion; e—enacted; f—at fixed prices (for 1976-80 plan except export target—1975 prices; exports—1974 prices; for 1971-75—1968 prices.)

Sources: Plan: a—FYP 1971-75, 1971; b—FYP Directives, 1976; c—FYP 1976-80, 1976, ND-15 Dec 1976. Actual: see table 2, except for following:

g—"Zuwachs an Beständen und Reserven" (increase in stocks and reserves) "Vorratsveränderung in—, Mitscherling et al. (1974), p. 354; Statistical Yearbook 1976, p. 38.  
i—Statistical Yearbook 1975, p. 261 ff; idem, 1976, p. 264 ff.

## II. Developments on the Foreign Economic Front

### THE STRUCTURE OF FOREIGN TRADE

Table 10 summarizes the data which have been reconstructed on the structure of foreign trade by major currency area.<sup>48</sup> The third part of the Table highlights the basic constancy of flows of trade. As is well known, machinery is the principal export of the GDR. The balances in Part I of the Table show that the GDR has a machinery export surplus with both CMEA and the less developed countries—both non-CMEA socialist countries and the developing countries of Asia, Africa, and Latin America. As for OECD countries—here GDR is a

<sup>48</sup> The data come from the data bank compiled by Jan Vanous as part of his CMEA Fortram research project into the foreign trade of STE. To my knowledge no comparable data are available from other sources.

TABLE 10.—THE STRUCTURE OF FOREIGN TRADE BY CURRENCY AREA

I. SDR<sup>1</sup> MILLIONS, CURRENT PRICES

	Exports			Imports			Balance		
	Mach	RMF	Cons	Mach	RMF	Cons	Mach	RMF	Cons
<b>CMEA:</b>									
1960.....	852.8	465.8	193.7	303.4	1,213.6	65.6	549.4	-747.8	128.1
1965.....	1,267.3	531.4	364.3	551.4	1,492.2	64.8	715.9	-960.8	299.5
1970.....	1,832.5	689.4	605.2	1,286.0	1,767.6	137.7	546.5	-1,078.2	467.5
1971.....	2,063.8	758.1	681.0	1,237.0	1,844.6	149.6	826.8	-1,086.5	531.4
1972.....	2,376.6	956.0	710.9	1,329.8	1,895.9	191.9	1,046.8	-940.9	519.0
1973.....	2,626.8	992.6	690.1	1,682.0	2,056.3	246.5	943.8	-1,093.7	443.6
1974.....	2,826.1	1,102.7	708.2	1,899.2	2,320.5	244.8	925.9	-1,227.8	463.4
1975.....	3,420.3	1,462.2	812.0	2,233.0	3,334.2	286.5	1,187.3	-1,872.0	525.5
<b>LDC:<sup>2</sup></b>									
1960.....	148.8	62.2	38.9	9.1	221.0	27.5	139.7	-158.8	11.4
1965.....	139.0	73.9	59.3	27.3	217.2	28.3	111.7	-143.3	31.0
1970.....	309.4	83.9	57.8	17.2	310.4	31.9	292.2	-226.5	25.9
1971.....	314.8	112.7	75.7	26.5	313.8	35.1	288.3	-201.1	40.6
1972.....	301.4	101.4	57.8	24.1	282.4	40.7	277.3	-181.0	17.1
1973.....	303.1	130.0	58.7	24.4	330.5	48.9	278.7	-200.5	9.8
1974.....	352.3	203.3	72.9	27.6	702.2	59.2	324.7	-498.9	13.9
1975.....	392.5	312.3	83.6	31.1	693.7	57.3	361.4	-381.4	26.3
<b>West:<sup>3</sup></b>									
1960.....	61.4	287.5	96.2	93.0	366.4	23.5	-31.6	-78.9	72.7
1965.....	96.4	385.6	152.5	134.7	482.8	20.9	-38.3	-97.2	131.6
1970.....	171.5	578.1	253.2	349.6	897.3	49.3	-178.1	-319.2	203.9
1971.....	200.3	579.7	290.2	398.1	927.5	48.8	-197.8	-347.8	241.4
1972.....	193.6	705.6	294.6	390.0	1,212.5	72.5	-196.4	-506.9	292.1
1973.....	223.4	899.2	307.4	433.1	1,346.9	248.6	-209.7	-537.7	58.8
1974.....	261.3	1,337.5	384.1	486.9	2,018.8	223.5	-225.6	-681.3	160.6
1975.....	358.8	1,118.6	397.9	589.8	1,930.1	198.8	-231.0	-811.5	199.1

## II. THE STRUCTURE OF FOREIGN TRADE (PERCENT)

<b>CMEA:</b>									
1960.....	56.4	30.8	12.8	19.2	76.7	4.1	-----	-----	-----
1965.....	58.6	24.6	16.8	26.2	70.8	3.1	-----	-----	-----
1970.....	58.6	22.0	19.4	40.3	55.4	4.3	-----	-----	-----
1974.....	60.9	23.8	15.3	42.4	52.1	5.5	-----	-----	-----
1975.....	60.1	25.7	14.3	38.1	57.0	4.9	-----	-----	-----
<b>LDC:<sup>2</sup></b>									
1960.....	59.5	24.9	15.6	3.5	85.8	10.7	-----	-----	-----
1965.....	51.1	27.1	21.8	10.0	79.6	10.4	-----	-----	-----
1970.....	68.6	18.6	12.8	4.8	86.3	8.9	-----	-----	-----
1974.....	56.1	32.3	11.6	3.5	89.0	7.5	-----	-----	-----
1975.....	49.8	39.6	10.6	4.0	88.7	7.3	-----	-----	-----
<b>West:<sup>4</sup></b>									
1960.....	13.8	64.6	21.6	19.3	75.9	4.9	-----	-----	-----
1965.....	15.2	60.8	24.0	21.1	75.6	3.3	-----	-----	-----
1970.....	17.1	57.6	25.2	27.0	69.2	3.8	-----	-----	-----
1974.....	13.2	67.5	19.4	17.8	74.0	8.2	-----	-----	-----
1975.....	19.1	59.6	21.2	21.7	71.0	7.3	-----	-----	-----

<sup>1</sup> See note a, table 1.<sup>2</sup> All non-OECD and CMEA Asian, African and Latin American countries, as well as Yugoslavia, which for our purposes should not have been in this category.<sup>3</sup> OECD countries and all non-CMEA European countries, except Yugoslavia.

Note: Mach=machinery (CTN 1); RMF=raw materials and food (CTN 2 and 3); Cons=consumers' goods (CTN 4).

Sources: CMEA Fortran data bank, created by Jan Vanous, University of Pennsylvania.

net importer of machinery. The GDR is a net importer of primary products—raw materials and food—with all currency areas. It is a net exporter of manufactured consumers' goods, again to all currency areas. There have also been some changes:

**CMEA.**—The structure of exports has not changed much, though the share of machinery has risen somewhat, and the share of consumers goods exports has declined since 1970. The rise in primaries in 1975, after a long fall, is due to higher prices that year. As for imports—here there is a substantial rise in machinery, reversed in 1975 only because of the sharp rise in primaries' prices, a decline in primaries (volume-wise only in 1975), and stability (or slow increase) in consumers' goods. One gets the impression that since the GDR was not able to

repay with primary exports its primary imports, it had to agree to import increasing amounts of "soft" goods, machinery and consumers' goods: its net exports of these items to CMEA countries have stayed stable or even declined somewhat till 1973. It is possible that CMEA cooperation machinery was used to implement this exchange. This trend was reversed in 1974.

*The West.*—In both exports and imports there is a decline in the volume-share of primaries and an increase in machinery, over time, marked in 1975 by the rise in the relative price of the former in terms of the latter. The share of consumers' goods in imports has been increasing until 1974, while in exports it has been steady. The break in policy in 1975, discussed in the following section, can be seen in the shift to higher exports and lower imports of consumers' goods, an increase in both exports and imports of machinery: this is a reflection of the renewed accent on investment rather than consumption in the use of resources.

The next section argues that consumers' goods are apparently slated to be especially prominent in the growth of exports to the West, so that the spurt in machinery exports in 1975 to the West—and data here are based on preliminary information—may represent the export of some machinery previously prepared to be installed at home. Some of the background to the plans for the 76–80 FYP can be seen in Table 11, which analyzes the development of machinery exports for those years for which we have information. The "structure determining" phase put the stress on electronics rather than on the more traditional sectors of engineering. We see, indeed, that the output of electronics and electrotechnical industries grew faster than any other industry during 1970–75, though much slower than planned (Table 17). Output grew much faster than that of engineering industries. The experience with exports was different: exports of electronic and electrical equipment grew less than those of other engineering industries, while the traditional engineering exports grew fastest. This is particularly true for exports to CMEA countries, where electric and electronic exports grew at half the rate of the traditional engineering export industries. Exports to the West grew faster but the West is a much smaller market for engineering products. Furthermore, consumers' goods exports, or to be more precise, exports of light traditional engineering products, grew at about the same rate as those of advanced electronic equipment (classified under the "other electronic products" heading). And again, CMEA countries bought a smaller share of the latter and increased their purchases by a lower rate than those of the more traditional goods. Might it be that the CMEA partners did not want the East German electronic equipment, and preferred to take their heavy machinery from their more advanced comrades? And that for advanced equipment they preferred suppliers farther to the West? This hypothesis would mean that the change in development policy (see below) was imposed by the unwillingness of other CMEA members to let the GDR preempt for itself the fastest growing industries. The facts cited above give some support to this: it seems that it was not shortage of supply which held down growth in electronics, because exports to the West grew. As for supply—until 1972 electronics plans were underfulfilled. In 1972 they were overfulfilled, but in later years the sights were reduced and lower targets were fixed for this industry.

TABLE 11.—EXPORTS OF MACHINERY, 1970-74, BY MAJOR TYPE AND CURRENCY AREA

[VM, millions]

	1970	1971	1972	1973	1974	Average annual rate of increase 1970-74
<b>I. TO ALL COUNTRIES</b>						
Total.....	9,414.6	10,529.1	11,766.7	12,859.7	14,113.1	(10.7)
Engineering products.....	5,519.6	6,362.1	7,146.3	7,885.1	8,730.6	(12.1)
Electronics and electrotechnical products.....	1,743.8	1,861.6	1,922.2	2,191.2	2,315.2	(7.3)
Vehicles.....	2,151.2	2,305.4	2,698.2	2,783.4	3,067.3	(9.3)
Consumers' goods.....	(1,156.6)	(1,376.2)	(1,630.4)	(1,779.4)	(2,026.9)	(15.1)
Other electronic products.....	(389.7)	(518.2)	(512.0)	(609.2)	(654.6)	(16.1)
<b>II. TO CMEA</b>						
Total.....	7,530.6	8,476.6	9,891.8	10,815.6	11,711.2	(13.8)
Engineering products.....	4,429.7	5,237.9	6,272.9	6,917.8	7,593.7	(14.4)
Electronic and electrical products.....	1,343.2	1,441.5	1,507.8	1,696.1	1,693.7	(6.0)
Vehicles.....	1,757.7	1,797.2	2,111.1	2,201.6	2,423.8	(8.4)
Consumers' goods.....	(985.3)	(1,188.1)	(1,475.2)	(1,577.1)	(1,781.9)	(16.0)
Other electronic products.....	(288.5)	(393.3)	(410.9)	(482.1)	(496.9)	(14.6)
<b>III. TO THE WEST</b>						
Total.....	738.2	839.9	815.3	962.0	1,119.6	(11.0)
Engineering products.....	381.4	391.3	304.5	356.5	442.7	(3.8)
Electronic and electrotechnical products.....	199.4	200.7	209.3	298.4	371.0	(16.8)
Vehicles.....	157.4	247.9	301.5	307.1	305.9	(18.1)
Consumers' goods.....	(81.0)	(85.1)	(79.3)	(112.6)	(138.8)	(14.1)
Other electronic products.....	(60.0)	(60.9)	(61.9)	(86.8)	(103.4)	(14.6)

Source: Statistical Yearbooks, 1972-76, table XII-8. Consumers' goods: office machines, equipment for news technique (radio and TV sets), electrical household equipment.

## THE FOREIGN TRADE CONSTRAINT

The little official information published on the terms of trade of the GDR is summarized in Table 12. The data are highly aggregated, and terms of trade by trading area and by commodity can be inferred only indirectly, by comparison with other countries' data.

TABLE 12.—GDR FOREIGN TRADE: INDICES OF VALUE, QUANTUM, PRICE, AND TERMS OF TRADE, 1970-75

	1970	1971	1972	1973	1974	1975
<b>I. Trade turnover, Socialist countries:</b>						
V.....	100	106.8	117.3	129.8	144.9	182.9
Q.....	100	106.1	115.5	127.6	139.0	150.0
P.....	100	100.7	101.6	101.7	104.2	122.0
<b>II. Trade turnover, non-Socialist countries:</b>						
V.....	100	106.4	120.3	148.5	203.9	200.3
Q.....	100	105.8	119.5	129.8	139.6	143.3
P.....	100	100.6	100.7	141.4	146.1	140.8
<b>III. Total exports:</b>						
V.....	100	110.8	124.4	136.0	158.2	182.5
Q.....	100	110.2	123.3	132.6	143.7	154.9
P.....	100	100.5	100.9	102.6	110.1	117.8
<b>IV. Total imports:</b>						
V.....	100	102.8	112.3	134.3	164.9	193.0
Q.....	100	102.1	110.2	124.1	134.9	141.6
P.....	100	100.7	101.9	108.2	122.2	136.3
<b>V. Terms of trade.....</b>						
	100	99.8	99.7	94.8	90.1	86.4

Key to symbols: V—value in VM at current prices; Q—value at constant prices; P—implicit price deflator. Terms of trade: the quotient of export and import price deflators.

Sources: Statistical Yearbook 1976; Q—p. 264; V—p. 265; P=V÷Q.

Three facts do, however, stand out. First, the price level of trade in general and of exports and imports was stable from 1970 to 1972. During 1973 there was a sharp price rise in trade with the West, which affected prices of both exports and imports and continued with double strength into 1974. And last, in 1974 prices started rising in trade with CMEA and the other socialist countries, and this rise accelerated during 1975. What we know of the new pricing agreements in CMEA assures us that this climb will continue until at least 1979, mirroring the earlier rises in the capitalist price level.

Any attempts to divide price rises between trade with socialist and non-socialist countries is highly conjectural and should be accepted for the guess it is. Estimates by Jan Vanous show terms of trade with the non-socialist world deteriorated by some 10 percent in 1973, with import prices rising nearly 20 percent, export prices by close to 10 percent. In 1974 there was a further deterioration in trade with the West by some 9 percent, with import prices rising to nearly 160, export prices to over 130. Deterioration continued in 1975 to altogether 20 percent below the 1970 level. Terms of trade with socialist countries deteriorated by some 9 percent till 1974, by another 6 percent on 1975, altogether by 10 percent, with prices of imports rising to nearly 130, those of exports to 115.

A rough shot can be made at the real loss suffered by the GDR as a consequence of these changes in the terms of trade. Since all information on trade we have is regarding commodity exports and imports, it would be proper to calculate the weight of exports and imports in NMP rather than GNP (or GDP). There is information that the effective exchange rate between 1963 and 1967 was 1.5M to a Valuta Mark (VM) (Nattland, 1972, Mitzseherling et al., 1974, p. 271). Since all information we have on the GDR is at 1967 prices, we can use the fixed price data to calculate the share of exports and imports in NMP at 1967 prices. In 1970 exports were just over 19b VM, i.e., some 29b M, imports over 20bVM, or 30.5b M. NMP was 109b M (Table 3), which makes exports 27 and imports 28 percent of NMP. By 1975 exports at constant prices rose 50 percent to about 44b M in 1967 Marks, imports 43 percent to the same real level. At 1967 prices NMP rose to 142b M, so that the share of exports and imports was about 31 percent each. Without any change in relative prices exports would have equalled imports and trade would have been balanced. Import prices have, however, risen by 36 percent since 1970, those of exports only by 18 percent; hence, to balance imports quantity-wise, exports would have to rise by another 15 percent.<sup>49</sup> These 15 percent of exports are nearly 5 percent of NMP, nearly 4 percent of GNP: this is the degree of damage done to the GDR economy by the deteriorating terms of trade. Without any other changes in the price level on western markets we know that prices on CMEA markets are going to adjust to the present western prices by the end of the decade. Assuming that the total deterioration in terms of trade will amount to 20 percent,<sup>50</sup> the damage by 1980

<sup>49</sup> 15.7, to be more precise:  $136.3 \div 117.8 = 1.157$ . This number will be recognized as the reciprocal of the terms of trade figure for 1975: see Table 12.

<sup>50</sup> An examination of the breakdown of volume and price indices in trade with non-socialist and socialist countries for various commodity categories gives few clues to future price developments: through future CMEA prices are to be based on today's prices in trade with the west, the composition of trade with the two groups varies too much for the totals to bear sufficient information. However, one item that is highly likely to increase substantially in price is Soviet oil. Assuming that this will raise prices of raw material imports by another 33 percent by 1980, we get a deterioration of terms of trade with the socialist countries to 77 (1970=100), below the non-socialist level for 1975 (which is estimated at 79).

will be over 6 percent of NMP if the ratio of imports in NMP does not change. In the past foreign trade increased at a rate 60 percent faster than NMP.<sup>51</sup> If this continues into the future, and NMP rises 2 percent, the planned level for 1980, imports should rise by over 40 percent to some 35 percent of NMP, and the damage in terms of growth of exports will amount to 7 percent of the 1980 NMP. This is how much of the 1980 NMP will have to be diverted from domestic absorption just to account for the deterioration of the terms of trade.

These losses from the price rises of imports are much higher than those for most other. This is because the GDR's foreign trade may be more complementary in nature than that of other STE. Compared to other CMEA countries the GDR has fewer raw materials to exchange for imported raw materials. In fact, it has in general a very narrow and dwindling raw materials base.

The calculations above give a rough guide of the losses suffered through changes in the terms of trade. They do not give the whole picture of the pressures foreign trade will exert on the economy. This is because balancing accounts in 1980 is not sufficient: there are debts which financed past deficits. What are GDR plans with regard to these debts? Are they to be refinanced? To be increased, or to be slowly repaid? On this we have no official statement. Let us assume that the GDR leadership wants these debts to remain at their present level in 1980, and that only additional deficits amassed during the first two years of the present FYP are to be repaid during the final two years.

In this rough calculation Table 13 may be of help. Only two of the currency blocks need concern us in this calculation, the West and CMEA. It will be seen that the problem is relevant for trade with the West alone. Since the increase in debt (1976 entry in lines 6 or 7 minus 1970 entry in line 5) is about equal to the deficit it seems that in the past interest payments were covered by invisible credit items,<sup>52a</sup> and we may assume the same will happen to the larger future interest payments. Thus all we have to take account of is the annual deficit of 840m SDR, which by assumption is to decline linearly to zero by 1978, with the additional debt of 840m SDR (1976: 560m and 1977: 280m SDR) being repaid in 1979 (one third) and 1980 (two thirds). This adds exports of 560m SDR, or roughly 3.5b Marks of 1967, i.e., another two percent of 1980 NMP.

The GDR had a surplus of over 1.2b SDR with CMEA over the five years 1971-75. This positive balance is, however, misleading and for two reasons. First is the services balance: since most trade with the USSR goes via Poland, there is a fairly substantial negative transportation item which has to be settled with this eastern neighbor. It is possible that tourism from that country, which has increased in the past, has also added a net positive item, but on the whole the positive trade balance of nearly 0.5b SDR with Poland can be assumed to finance a negative services balance. The second is GDR participation in joint investment projects in other CMEA territories, mainly in energy and raw material projects in the USSR. This participation, which is in the nature of a long term loan, amounted to 3.2b Marks

<sup>51</sup> NMP elasticity of foreign trade was about 1.6 (Keren, 1976).

<sup>52a</sup> Fairly substantial transfers are made annually by the FRG: See S. Kupper, H. Lambrecht and G. Ollig, *Handelspartner DDR—Innerdeutsche Wirtschaftsbeziehungen*, Baden-Baden: Nomos Verlag, 1975, pp. 328ff.

TABLE 13.—GDR FOREIGN TRADE BALANCES AND DEBTS BY CURRENCY AREAS, 1971-1975

[In millions of currency unit: SDR, unless otherwise stated]

	1970	1971	1972	1973	1974	1975	1976 <sup>1</sup>
<b>I. Western industrialized countries:</b>							
Export.....	1,002.8	1,070.2	1,193.8	1,430.0	1,982.9	1,875.3	-----
Import.....	1,296.2	1,374.4	1,675.0	2,118.6	2,729.2	2,718.6	-----
Balance of trade.....	-293.4	-304.2	-481.2	-688.6	-746.3	-843.3	<sup>2</sup> -3,357.0
Balance of trade (current U.S. dollars) Indebtedness to West, beginning of year (U.S. dollars).....	-293.4	-304.2	-594.0	-830.5	-886.6	-1,055.0	<sup>2</sup> -3,893.5
Snell.....	-697.2	-1,014.0	-1,237.3	-----	-----	-----	-----
Chase estimates.....	-----	-----	-----	-----	-----	3,600.0	4,900.0
Gross <sup>3</sup> .....	-----	-----	-----	-----	-----	3,100.0	4,200.0
Net <sup>3</sup> .....	-----	-----	-----	-----	-----	-----	-----
<b>II. Less Developed countries:</b>							
Export.....	192.2	222.6	206.5	238.6	304.5	367.7	-----
Import.....	189.1	185.6	149.2	194.3	449.4	407.1	-----
Balance of trade.....	3.1	37.0	57.3	44.3	-144.8	-39.4	<sup>2</sup> -42.5
Balance of trade (U.S. dollars).....	3.1	37.0	62.5	53.4	-172.0	-49.3	<sup>2</sup> -65.3
<b>III. CMEA:</b>							
Export.....	3,127.1	3,502.9	4,043.5	4,309.5	4,637.0	5,583.5	-----
Import.....	3,191.3	3,231.2	3,418.6	3,984.8	4,474.5	5,732.2	-----
Balance of trade.....	-64.2	271.7	624.9	324.7	162.5	-148.7	<sup>2</sup> 1,170.9
Balance of trade with Poland.....	-----	-----	-----	-----	-----	-----	<sup>2</sup> 479.7
Balance of Trade with other CMEA.....	-----	-----	-----	-----	-----	-----	<sup>2</sup> 691.2
<b>IV. Other Socialist countries:</b>							
Export.....	258.9	280.6	254.1	253.2	323.9	316.1	-----
Import.....	170.4	189.8	198.0	209.5	339.6	227.0	-----
Balance of trade.....	88.5	90.8	56.1	43.7	-15.7	39.1	<sup>2</sup> 302.5

<sup>1</sup> Cumulative 1970-75, or balance beginning 1976.<sup>2</sup> Sum of trade balance, 1970-75.<sup>3</sup> Net indebtedness equals gross indebtedness minus foreign exchange deposits in Western banks.

in the past FYP, and is planned to rise to 8b Marks in the coming FYP. To convert the 3.2b Mark into SDR, we may observe that export prices of GDR exports to the USSR have increased by roughly 10 percent by 1974 (Kohn, 1976): assuming that on the average they were 5 percent above the 1967 level, we can increase the VM/M rate by a like proportion to 0.7. Thus we arrive at 530m SDR: this more or less wipes out the surplus on the balance of trade with CMEA.

If we transform the planned participation of 8b Mark over the 1976-80 FYP to annual rates, assuming a fixed proportion of NMP over the years, the 1980 rate would amount to about 2b Mark, over 1 percent of the NMP planned for 1980. Summing up all the required increases in exports, 7 percent to balance trade at the worsened terms of trade, 2 percent to keep the deficit at the present level and 1 percent for investments in CMEA projects, altogether 10 percent of 1980 NMP will be used up by increased exports. Any smaller room for increasing the exports surplus means an increase in indebtedness; any larger share, a reduction of indebtedness over the level at the beginning of 1976.<sup>52</sup>

### III. The Structure of Economic Activity

A growing share of industry, a declining share of agriculture, and a nearly constant share of "productive services" (Table 14)<sup>53</sup> characterize structural changes over time. Construction had its share increase rapidly during the '60s, and decline somewhat during the 1970's: here the faster increase in residential construction was balanced

<sup>52</sup> The level of indebtedness to the West at the end of 1976 was higher by \$1b than the figure given in Table 13 for the beginning of the year, i.e. almost double the increase assumed above.

<sup>53</sup> i.e., those included in NMP.

TABLE 14.—THE INDUSTRIAL ORIGIN OF NMP, SELECTED YEARS

	1960	1965	1970	1975
<b>I. M, billion:</b>				
Industry.....	41.2	51.9	68.8	91.2
Construction.....	5.1	6.4	9.3	11.7
Agriculture and forestry.....	12.0	12.1	13.2	14.7
Services and others.....	14.7	17.2	22.0	29.1
NMP <sup>1</sup> .....	73.1	87.7	113.3	146.7
<b>I. Structure, percent:</b>				
Industry.....	56.4	59.2	60.7	62.2
Construction.....	7.0	7.4	8.2	8.0
Agriculture and forestry.....	16.4	13.8	11.6	10.0
Services and others.....	20.1	19.6	19.4	19.8
NMP <sup>1</sup> .....	100.0	100.0	100.0	100.0
<b>III. Rate of change, percent per annum:</b>				
Industry.....	4.7	5.8	5.8	
Construction.....	4.6	7.8	4.7	
Agriculture and forestry.....	.2	1.8	2.2	
Services and others.....	3.2	5.0	5.8	
NMP <sup>1</sup> .....	3.7	5.3	5.3	

<sup>1</sup> "Nettoprodukt." This differs from NMP given in table 3 by unallocated subsidies to intermediate products.

Source: Statistical Yearbook 1976, p. 36.

by a slower increase in investments, which trailed slightly behind the growth of NMP. The share of agriculture has been on a continuous decline.

As for inputs—here the picture is slightly more complex: the share of capital in industry has been increasing constantly (Table 15), while the share of employment in industry has been stable (Table 16). Construction has increased its share of both capital and labor, rapidly in the '60s, more slowly in the latest quinquennial. Agriculture has been losing labor rapidly—at a rate of 2 or even 3 percent annually, and substituting capital for it. The service branches, non-productive, and also productive and non-productive together, have been gaining labor, but losing their share of capital: productive services on their own have been maintaining or even slightly increasing their share of both factors.

A look at the structure of industry gives a better indication of the policy choice. The classification of industry in all tables (Tables 15, 17, 18) has been into basic industry, which includes all extractive branches as well as electric energy; chemicals and electrical engineering—the main beneficiaries of the structural drive; other engineering branches—the traditional foci of relative advantage; light and food industries—consumers' goods producers, and building materials. Now, the share of basic industry in output (Table 14) has been falling, though its share in both capital (Table 15) and employment (Table 18) has been nearly constant. This seems to be a reflection of the gradual exhaustion of natural resources in the GDR. The share of chemicals and electrical engineering has been increasing in output, capital (since the mid-60's), and employment, and other engineering branches have held a nearly constant share of output and factors since 1965—their slight increase in weight occurred mainly before that date: the relative position of the new vs. old growth foci characterizes the main conception of development policy during the latter part of NES, whose

TABLE 15.—THE STRUCTURE OF CAPITAL, 1960-75

	1960	1965	1970	1975
<b>I. Mark, billion:</b>				
Total capital.....	324.9	392.5	466.7	576.8
Productive branches.....	161.0	217.5	276.0	366.7
Industry <sup>1</sup> .....	96.3	132.4	170.1	231.0
of which:				
Basic industry <sup>2</sup> .....	(27.7)	(40.4)	(50.7)	(67.4)
Chemicals and electrical engineering.....	(21.0)	(29.0)	(40.4)	(58.7)
Other engineering.....	(13.0)	(19.6)	(25.5)	(35.6)
Light and food industry <sup>3</sup> .....	(21.8)	(26.4)	(32.2)	(43.6)
Other industries.....	(12.6)	(17.0)	(21.1)	(25.7)
Construction.....	2.8	4.6	7.4	10.5
Agriculture and forestry.....	20.5	28.4	37.5	47.8
Other productive branches.....	42.3	52.1	61.0	77.3
Nonproductive branches.....	163.0	175.0	190.7	210.1
<b>II. Percent (total capital=100):</b>				
Industry.....	29.6	33.7	36.4	40.0
Construction.....	.9	1.2	1.6	1.8
Agriculture and forestry.....	6.3	7.2	8.0	8.3
Other productive branches.....	13.0	13.3	13.1	13.4
Nonproductive branches.....	50.2	44.6	40.9	36.4
<b>III. Percent (capital in industry=100):</b>				
Basic industry.....	28.8	30.5	29.8	29.2
Chemicals and electrical engineering.....	21.8	21.9	23.8	25.4
Other engineering.....	13.5	14.8	15.0	15.4
Light and food industry.....	22.6	19.9	18.9	18.9
Other industries.....	13.1	12.8	12.4	11.1

<sup>1</sup> "Industrie und Produzierendes Handwerk" (includes artisans not in service branches).

<sup>2</sup> Energy and fuel; metallurgy.

<sup>3</sup> Light industry, food industry, textile industry.

Sources: Statistical Yearbook 1976, p. 44f., 14.

TABLE 16.—THE STRUCTURE OF MANPOWER AND EMPLOYMENT

[In thousands]

	1960	1965	1970	1974
<b>Males in working age<sup>1</sup>.....</b>	4,961	4,789	4,870	4,982
Employed males <sup>2</sup> .....	4,230	4,095	4,019	4,000
Participation rate for males (percent) <sup>3</sup> .....	85.3	85.5	82.5	80.3
<b>Females in working age<sup>1</sup>.....</b>	5,581	5,127	5,011	4,978
Employed females <sup>2</sup> .....	3,456	3,581	3,750	3,903
Participation rate for females (percent) <sup>3</sup> .....	61.9	69.8	74.8	78.4
	1960	1965	1970	1975
<b>Employed, total<sup>2</sup>.....</b>	7,686	7,676	7,769	7,948
<b>Industry.....</b>	3,182	3,189	3,259	3,302
Construction.....	470	455	538	557
Agriculture and forestry.....	1,304	1,179	997	895
Other productive branches.....	1,540	1,588	1,620	1,681
Non-productive branches.....	1,191	1,265	1,355	1,514
<b>Percent:</b>				
Industry.....	41.4	41.5	41.9	41.5
Construction.....	6.1	5.9	6.9	6.0
Agriculture and forestry.....	17.0	15.4	12.8	11.3
Other productive branches.....	20.0	20.7	20.9	21.1
Non-productive branches.....	15.5	16.5	17.4	19.0
	1960-65	1965-70	1970-75	
<b>Annual rate of change, percent:</b>				
Total employment.....	-0.03	0.94	0.45	
Industry.....	0	.9	.3	
Construction.....	- .6	3.4	.7	
Agriculture and forestry.....	-2.0	-3.3	-2.1	
Other branches.....	.9	.8	1.4	

<sup>1</sup> Males between ages of 15 and 65, plus 5/12 of those between ages 14 and 15.

<sup>2</sup> On Dec. 31, of given year.

<sup>3</sup> Ratio of employed to relevant population.

<sup>4</sup> Same as <sup>1</sup>, except that 60 is upper age.

Sources: Statistical Yearbook 1976, pp. 15, 16; Statistical Yearbook 1975, p. 31.

TABLE 17.—THE STRUCTURE OF INDUSTRIAL OUTPUT, SELECTED YEARS

	[Industrial Gross Output] <sup>1</sup>			
	1960	1965	1970	1975
<b>I. 1967 Mark, (billions):</b>				
Basic industry.....	13.1	16.0	20.4	25.9
Chemicals and electrical engineering.....	15.6	23.4	35.1	53.4
Engineering.....	18.5	26.5	37.1	48.9
Light and food industries.....	35.3	41.7	53.3	69.6
Building materials.....	1.6	2.2	3.0	3.9
<b>Total, industry.....</b>	<b>84.1</b>	<b>109.8</b>	<b>148.9</b>	<b>201.7</b>
<b>II. Percent:</b>				
Basic industry.....	5.6	14.6	13.7	12.8
Chemicals and electrical engineering.....	18.5	21.3	23.6	26.5
Engineering.....	22.0	24.1	24.9	24.2
Light and food industries.....	42.0	38.0	35.8	34.5
Building materials.....	1.9	2.0	2.0	1.9
<b>Total, industry.....</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

<sup>1</sup> Industrielle Bruttoproduktion.

Source: Statistical yearbooks 1976, p. 107; 1975, p. 109, 112. Data for 1960, 1965, and 1970 were reconstructed from indexes in the latter source. Although the indexes do not seem to refer to same data, as a comparison with other series makes clear, it is believed that the distortion is not too great.

TABLE 18.—THE STRUCTURE OF INDUSTRIAL EMPLOYMENT

	[In percent]			
	1960	1965	1970	1975
Basic industry.....	11.3	11.8	10.6	10.6
Chemical and electrical engineering.....	20.9	22.4	24.0	25.1
Other engineering.....	26.0	27.9	28.8	28.7
Light and food industries.....	38.6	34.8	33.4	32.6
Building materials.....	3.2	3.1	3.1	3.1
<b>Total.....</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

Sources: Statistical Yearbook 1976, p. 107, *idem.*, 1975, pp. 128, 112, 127, 109. Employment series in industry by the post 1969 classification of industry were extrapolated backward by means of indexes of gross output and productivity, using the 1974 employment structure as an anchor. The sum of the resulting series declines in the past less than other employment series, throwing some doubt on its use as a guide to the actual numbers employed. It is hoped that the structure of employment in it may still be fairly reliable.

reversal may be in store for the coming FYP. The share of consumers' goods branches has been declining, though this decline has been slowing down: during the last FYP capital share in these branches has been declining by less than before, and, as a result, the decline of the share of output has also been slower. Here we see the result of the greater stress on consumption in that plan. The development of building materials mirrors that of the construction industry.

### C. THE 1976-80 PLAN

This section is divided into several subsections. The first discusses the overall growth target, given the expected growth of resources. The next, the structure of resource use—consumption, investment, and foreign trade. The third, the industrial composition of output. The information gleaned from the fulfillment report on the first year of the FYP, 1976, (ND, 22-23 Jan. 1977) will be used in all of these. The final section discusses the expected evolution of the system and the likelihood (or lack of it) of reforms.

### I. Growth Targets and Their Feasibility

The FYP for 1976-80 was promulgated in mid-December, 1976 (ND, 17 Dec. 1976). The NMP growth target, as stated in the published plan (FYP 76-80, 1976) was put at 27.9 percent, in the lower end of the range of 27 to 30 given by the draft FYP Directives (1976) (see Table 9). Industrial output was to rise by 34 percent, coinciding with the lower end of the directives' range of 34 to 36 percent.<sup>54</sup> Are these targets attainable? A first stab at an answer to these questions will be based on the analysis of the experience in the '71-75 FYP (section B.I, above).

Growth of inputs: Stoph, the Chairman of the Council of Ministers, in his presentation of the FYP to the People's Chamber (ND, 16 Dec. 1976, p. 4) mentions an increase of 350,000 in employment. The Plan Directives (1976, p. 23) give a somewhat lower listing of additional employment of 300,000,<sup>55</sup> and this is also the estimate of the Berlin DIW (WB 23/76, 10 June 1976): though total population is to decline to just over 16.5 million, from the 16.8 million level at the end of 1975,<sup>56</sup> the number of those in working age should increase by over 500,000, i.e., by over 5%. This is because the cohorts affected by the Second World War are leaving the work force and younger cohorts of post-war vintage are joining it.

Some effects of this phenomenon can be seen in Table 16: the number of males in the labor force, much smaller than that of females in 1960, is coming close to catching up with females by 1975. It is the small number of males which characterizes cohorts mauled badly by the war. Total population in the working age also started increasing around 1970 (Table 16). The participation rate is in a state of flux: going down for men, up for women, as the Table shows. The reason may be a genuine increase in female participation, coupled with a decline in the number of pension age males, many of whom continue to work. The DIW estimate expects participation rates to fall, due to longer study periods and a smaller number of pensioners, many of whom, as said above, continue to be employed. It is likely that any differences in employment hinge on the behavior of the participation rate. In any case, employment is slated to rise by between 3.5 and 4.4 percent, or between 0.7 and 0.9 percent per annum. Of the increase, close to 200,000 are planned to be employed in the productive economy: <sup>57</sup> this is a growth of some 3 percent over the FYP, 0.6 percent annually.

*Capital.*—The FYP does not mention the capital accumulation target: this has to be inferred from the investment target. Assuming an eighteen months' average gap between investment expenditure and commissioning of new capital, we find that to raise capital by 110 billion M over the previous FYP, 171 billion M were invested between

<sup>54</sup> See below some questions regarding the meaning of these targets in view of the fulfillment of the 1976 plan  
<sup>55</sup> And those employment targets which are mentioned in the enacted plan (FYP) 1976-80, 1976) agree with the Directives. See also footnote 57.

<sup>56</sup> The Foreign Demographic Analysis Division of the U.S. Department of Commerce (Baldwin, 1976) has three alternative estimates for 1980, based on different birth rate assumptions. The lowest estimate gives a decline of only 200,000.

<sup>57</sup> (FYP Directives, 1976, p. 23 and FYP 1976-80, 1976, Sec. II)—130,000 in industry, 36,000 in construction, 23,000 in other productive branches. 110,000 are to go to the non-productive sphere; there is no mention of the expected decline in agricultural employment. The differing pronouncements on employment in the Directives and in Stoph's speech may indicate a tightening of plans in this sphere between the beginning of 1976 (when the draft Directives were published) and its end. Alternatively, Stoph may have wanted to emphasize the reserves of 60,000 employees which existed in the plan, though this would have been unusual practice.

1969 and 1974;<sup>58</sup> in other words, total retirement of capital was some 61 b M, some 13 percent of the value of capital in 1970. Using the same assumptions for 1976-80 and spreading the targeted investments of 234 billion M at an even growth rate over the FYP, we get a gross increase in capital stock of 216 billion M, or a net increase of 141 billion M,<sup>59</sup> nearly a quarter above the 1975 stock, an annual growth of 4.5 percent (against an actual growth of 4.3 percent rate during 1971-75). Thus the capital stock in the productive sphere could grow by 6 percent, as against 5.8 percent per annum in the previous period.

Taking these figures on the growth of inputs, adding in an annual improvement in productivity of 2.8 percent (attained by conservative estimate over 1971-75—Table 8) and assuming a capital elasticity of 0.3, we get an annual growth projection of 5.0 percent, or quinquennial growth a shade below the FYP target of 27.9 percent.<sup>60</sup> If there are nevertheless serious doubts about the possibility of fulfilling the target, it is because of the fewer degrees of freedom the 1976-80 plan has, particularly with respect to foreign borrowing. Hence exports, both to CMEA and the West, have to increase substantially, investments have to grow to enable the growth target to have a chance of fulfillment, and less will remain for consumption. And then, a consumption fund reserve is needed for a flexible incentive system that will lead to the assumed high labor inputs.

Will the plan be fulfilled? Does the GDR leadership expect it to be fulfilled? The 1976 target, of an NMP growth of 5.3 percent, was drastically underfulfilled at 3.7 percent, the lowest rate since 1963. The drought was blamed for this underfulfillment, but it seems that other things must also have gone awry. It is quite possible that with less flexibility in plan implementation, with foreign trade less of a safety valve than before, the rate of productivity growth will be lower in the second half of the '70s, and the growth target will not be fulfilled.

There is an unusual element in the new FYP, in that the underfulfilled 1976 targets have not been corrected: in the previous FYP (enacted at the end of 1971), the target given for 1971 was not the original target but the (lower) one actually attained. In 1976, the original (unfulfilled) target was retained in the FYP for 1976, even though impending underfulfillment must have been clear to the leadership. The NMP and industrial output growth targets in the annual plan for 1977 published together with the FYP, equal neither the targets given in the FYP for that year, nor the growth required for the level foreseen for the end of 1977 to be attained (i.e., original targets plus underfulfillment from 1976). In fact, the industrial output target is even lower than that in the FYP. This may be related to the new counter-planning method (see below), but it makes it quite difficult to comprehend what the FYP targets this time mean.

## *II. Resource Use. The End of Priority to Consumption*

“The main task \* \* \* [remains] further to improve the material and cultural standard of living of the people by the achievement

<sup>58</sup> 50 percent of years' and 100 percent of mid-years' investments.

<sup>59</sup> Total FYP investment, growing annually at 5.2 percent rate above the 40 million M invested in 1975, leads to some 76b investment in 1980 and half-1979, which will be commissioned after 1980. To this are added investments in 1975 and half-1974, 75 billion M, 13 percent of capital in 1975, are subtracted as retrials.

<sup>60</sup> A similar calculation would give a 4.6 percent annual growth rate for GDP, 25 percent over the FYP.

of a rapid rate of development of socialist production" (FYP Directives, 1976, p. 9; italics by MK). In other words, consumption is still the "main task," and maintains this nickname by which it has been referred to since 1971, except that it is now to be made subject to the growth of the material base. Thus investment is to increase by 5.3 percent annually (see above) while retail sales are to increase by 4 percent<sup>61</sup> and total consumption, i.e., private plus public consumption, by just over 4 percent.<sup>62</sup> This is a reversal of the 1971-75 FYP: retail sales are to rise by the target rate of 1971-75, but by nearly one percent annually below the actually claimed achievement.<sup>63</sup> Total consumption rose by 30 percent over the previous FYP, 5.3 percent annually; the reduction in growth rate is by over one percent annually. Investments in 1975 were 22 percent higher than in 1970; by 1980 they are to increase by 27.9 percent.<sup>64</sup> The pressures of events on the foreign front led to the shift of emphasis. But as will be seen below, the pressure on the economy is still great: the nearness of the FRG did not permit nominal consumption growth to be trimmed much further.

Since all plans relate to the productive sphere, and since the export surplus too has to be in goods produced in the material sphere, implied domestic material absorption in 1980 should be compared to the growth target of NMP, to find the value of resources freed for exports in 1980. The problem is that for this net investment has to be estimated, investment in inventories added, so as to find the increase in accumulation. Rough calculations show an increase of accumulation by 27 percent between 1975 and 1980.<sup>65</sup> Total local absorption, weighted at 1975 domestically utilized NMP weights, is to increase by 23.5 percent, i.e., by between 4 and 5 percent less than NMP. The analysis of section B.II showed that to keep the external debt at its present level an additional diversion of 10 percent of 1980 NMP was required. With only 4-5 percent forthcoming, external debt will continue to pile up. The results of 1976, when debt increased by over \$1b, bear this out.

This analysis throws some further light on the prospects for the global growth targets (section C.I). Is it that the constraints on consumption and investments, which led to fixing these targets at the middle or upper end of the Directives' range (Table 9) led to a plan that was known to be unbalanced? Or was the decision to further increase borrowing a conscious one? In any case, either of three alternatives, or a combination of them all, seems possible: (i) a continued increase of indebtedness to the West, possibly also to the USSR; (ii) if this is impossible, a cut-down of investments, leading to growth problems; or (iii) a cut-down of consumption, possibly by means of higher prices. In the latter two cases plan targets may

<sup>61</sup> Nominally, but consumers' prices are again promised not to be changed (FYP 1976-80, 1976, section I).

<sup>62</sup> Over the FYP—retail sales are to rise by 21.5 percent, total consumption by 22.5 and net disposable income by 21.4 percent.

<sup>63</sup> See discussion of price rises in section B.

<sup>64</sup> See footnote 59. At annual rates, the increase is from 4.1 to 5.25 percent.

<sup>65</sup> A series of accumulation, found in Mitzscherling et al. (1974, p. 354) shows that the difference between gross investment and net investment in fixed assets in the accumulation series is some 75% of depreciation in the material sphere (Statistical Yearbook 1975 and 1976, p. 37). Depreciation itself is about 4.7 percent of capital stock in the productive branches. Since the latter is to increase by 6 percent per annum by assumption (see above), or by 33.8 percent till 1980, the difference has been increased by that rate and deducted from gross investment in 1980 to arrive at net fixed investment of 34.4 billion M. Inventory investment may increase by the growth rate of NMP, i.e., by 27.9 percent to 5.8b M. Altogether accumulation is to rise to just over 40 on M, billi.e., by over 27.5 percent above the 1975 level of 31.5b Mar.

ostensibly be fulfilled, because of hidden price rises, as in the former FYP period.

### III. The Industrial Structure of Output

While industrial output as a whole is to grow at a slower rate than during the past, i.e., by 3 percent over the FYP, 6 percent annually (Table 9), the internal structure of this increase continues some trends and starts new ones. Old trends are continued with the decline in the share of basic materials industries and light industries (Table 19). The former decline is a reflection of the diminishing raw materials reserves. Lignite production has been on the decline for several years, and the increase in the output of the ministry of coal and energy must be mainly in electric energy. The increase in metallurgy is mainly in processing of imported materials. In the extraction of raw materials the main increase comes from potash. Thus the dependence of the GDR on imported materials is to increase in the future. Light industries are to expand at a slightly slower rate than in the previous FYP, but at a rate that exceeds that of the growth of retail sales: apparently a substantial part of this growth is to be exported.<sup>66</sup>

TABLE 19.—THE STRUCTURE OF INDUSTRIAL OUTPUT, 1975 AND 1980

	1975	1980	1980/1975 (percent)
<b>I. Marketable industrial output<sup>1</sup> (billion 1975M):</b>			
Total industrial output.....	237.3	318.0	134.0
By enterprises subordinate to industrial ministries.....	188.7	261.1	138.4
Ministries for:			
Basic materials <sup>2</sup> .....	34.4	44.1	128.2
Chemical and electrical engineering.....	51.5	74.7	145.0
Other engineering <sup>3</sup> .....	37.0	52.9	143.0
Light and food industries <sup>4</sup> .....	65.7	89.4	136.1
<b>II. Structure (percent):</b>			
Ratio of ministerial industrial output to total industrial output.....	79.5	82.1	.....
Total ministerial output.....	100.0	100.0	.....
Of which:			
Basic industry.....	18.2	16.9	.....
Chemical and electrical engineering.....	27.3	28.6	.....
Other engineering.....	19.6	20.3	.....
Light and food industries.....	34.8	34.2	.....

<sup>1</sup> Industrielle Warenproduktion.

<sup>2</sup> Coal and energy, ores, metallurgy, and potash, geology.

<sup>3</sup> Heavy machine building and installations, machine tools and processing machines, general machine building, agricultural machines and vehicle construction.

<sup>4</sup> Light industry, glass and ceramics, locally directed industry and food industry.

Sources: 1975—Statistical Yearbook 1976, p. 107. 1980—based on 1975 and target rates of growth from FYP 1976–80 (1976), pt. IV; except for geology—estimated at 0.5b mark for 1980.

The new focal industries, chemicals and electronics and electrical engineering, are to grow at the same rate as the traditional engineering industries: this is a change from recent trends. In the previous FYP chemicals grew by 48 and electrical industries by 55 percent, whereas the other engineering industries grew by only 37 percent. Part of the background to this shift back into older and tried fields of relative advantage has been explored in the discussion of the structure of

<sup>66</sup> A word of caution: the output targets are gross, i.e., materials going through several changes of fabrication are counted several times. Nevertheless, the differences in the targets are sufficient to make the comparison valid. Cf. also (DIW-WB No. 8/76).

foreign trade in section B. A DIW study of the chemical industry comes up with similar shortcomings in that industry: the GDR has not been overly successful in expanding the newer branches of the industry, and some processes and products which are nearly obsolete in the West, e.g., the use of calcium carbide as a basis for organic chemical and the production of viscose yarn are still expanding (DIW-WB No. 49/76, p. 458f). Thus the relative upgrading of the more traditional engineering industries may be taken as a sign of dissatisfaction with the progress of the newer fields.

While industry is slightly to decelerate against past rates of growth (Table 9), construction is to grow at past speeds. This is because of the acceleration of investment, and of residential housing construction. The targets for the latter are set at over 35 percent above the fulfillment for 1971-75 for new apartments (550,000 as against 400,000) and at about the same number for modernized ones (200,000) (DIW-WB No. 27/75 and Statistical Yearbook, 1976, p. 157). This is somewhat of an anachronism in a plan which has down-graded consumption. The housing plan is part of a longer term plan running to 1990 and unveiled in the spring of 1975. It is in effect a commitment which precedes the preparation of the published FYP. And the commitment is not cheap: by the DIW calculations it is to raise total outlays on housing from 13 to 20 percent of all investment (DIW-WB No. 27/75).<sup>67</sup> If the commitment looks too heavy in subsequent years, the share of renewed and modernized apartments, which require lower investments, may be increased, thus keeping within the general promise of 750,000 apartments, but at a lower cost.

#### *IV. The System. A Projection to 1980*

If the 1960's were a decade of experimentation, of diversity, of many different paths in the wide fields of the STE, the 1970's seem to witness a return to orthodoxy, to tried ways, to emulation of Soviet example. There may be a political background to this and a personal one too, in the case of the GDR. Ulbricht was closely identified with NES, and may have seen in its success his crowning achievement, the justification of the separate socialist German state, which has created its own way, the best way, to an efficient and more humane socialist society. Honecker had never been associated with economic matters before he came to power. One of the several reasons why the Soviets pushed him forward, pushing Ulbricht out, may have been this very flaunting of the German separate and better way of doing things economic. The failure of the last phase of NES may have given them their opportunity. Thus Honecker came to power on a platform, so to say, of emulating the Soviet experience and way of doing things.

In the GDR case there may be another political factor: no other regime felt itself threatened by Czechoslovak events as the East Germans. It is quite possible that any slogan of separate ways may look like a thin edge of a wedge which may take on Czechoslovak proportions.

<sup>67</sup> Stoph, in his presentation of the FYP speed gave a figure of 55 billion Mark for the "complex" costs of the housing program, i.e., taking all ancillary investments and possibly also costs of investments in additional infrastructure. This is closer to 25 percent of the total investment target. He may, however, have included all housing costs including investment costs, such as maintenance subsidies not covered by rent payments, and then his figure bears no comparison to previous ones (ND, 16 Dec. 1976).

But there seem to be economic grounds for equalizing systems across CMEA countries for the developed countries of the block. There was "anarchy" on the capitalist markets during the early '70s, with rising prices first complicating accounting and pricing, then the jump in oil and raw material prices opening a gaping hole in international payments, and last—a recession which limits demand for GDR goods just at the time when foreign exchange is most badly needed. All this has underscored the greater stability of CMEA markets and the lesser costs of the GDR's dependence on its CMEA partners, who may also change prices, but at a much slower rate than the West.

What the GDR needs from its partners is raw materials in exchange for machinery and manufactured consumers' goods. There is a basic difference in the way such exchanges are viewed from the point of view of the two sellers, that of machinery and that of raw materials. It is not only that raw materials are hard goods, relatively underpriced in CMEA markets and with ready alternative markets in the West, quite unlike machinery. It is also that the producer of machinery, whose production takes time, is interested in long-term commitments both to buy the final output, the machines, and to supply the necessary raw materials. This is why coordination of plans is more important to the GDR than to the primary exporters. Furthermore, to coordinate the building of new capacity, to see to it that complementary output is undertaken, rather than production of substitutes which may supplant it in CMEA markets, the machinery of CMEA is more important to the industrial West of the member countries than to the others. But coordination and division of runs of output between the member countries often means joint production or "cooperation." These require joint decisions, which become more and more difficult when systems, and criteria for decision-making, differ.<sup>68</sup>

This is not to say that there will be no drive for reform. It is only that there are additional barriers to any new attempt at a *Liber-manesque* experimentation that did not exist in the early 1960's. Furthermore, that reform will be much more readily undertaken if it is imported from the East.

How effective is the coordination and cooperation through the machinery of CMEA, the dovetailing of FYPs and annual plans, is impossible to say. We have no statistics on this and any pronouncements are highly suspect. If, as is quite likely, the machinery of coordination does not work successfully, pressures for new departures will build up. If it works well, the need for going in harness will be reinforced.

It is quite clear that the need for outside coordination of the plan has added complexity to the process of plan construction. To stress the precedence of tasks which involve foreign CMEA partners, a special part dealing with international cooperation has been added to the plan document.<sup>69</sup>

The plan document in itself has become an ever heavier one. One of the hallmarks of the post-NES regime has been an addiction to

<sup>68</sup> A report of a Czechoslovak-GDR committee on joint ventures in machine tools shows that even small differences like the inclusion of export profits in the unitary enterprise profit in the GDR but not in Czechoslovakia, the different way of allocating overhead costs, etc. may complicate cooperation (W, 42/74, October, p. 10).

<sup>69</sup> Cf. FYP 1976-80 (1976, Sec. III).

codification. NES was open-ended, experimented with new forms, sought new solutions. The regime of the 1970's wanted to establish stability. 1971 saw the first Planning Methods for the 1972 Plan (1971), 1972 brought new Planning Methods for the 1973 Plan, which were followed a year later by the Planning Methods for 1973 (1974). The latter were published as corrections to the previous document, but the corrections were of the same order of magnitude, page-wise, as the original. Another correction was added for the 1975 Plan (Planning Methods for 1975 (1974)). In 1975 there followed a Planning Order and a Skeleton Guideline to codify planning and allocation practices. But codification has also brought changes, namely an increase in the number of plan indicators, in the detail of the plan. The head of the Economic Research Institute of the State Planning Commission, Steeger, who described the Planning Order as a step which draws the GDR planning system closer to the Soviet one, also criticized its draft for including too wide a nomenclature of " \* \* \* 120 state plan indicators for the FYP, and 135 state plan indicators for the annual plans \* \* \* that is 27 more indicators for the annual plan than for 1974" (quoted in Erdmann, 1976, p. 13). Erdmann shows that in general there has been a tendency for an increase in the number of indicators in each of the years 1974, 1975, and 1976 (Erdmann, 1976, p. 23). He quotes a complaint from an enterprise that "To complement the Planning Order and Skeleton Guideline we received branch-specific regulations of altogether 136 pages. The draft plan prepared on this basis had \* \* \* 491 pages \* \* \* to which have to be added \* \* \* balancing documents and the plan for materials and energy which comprehends another 453 pages. Herewith we have reached \* \* \* a quantity which is absolutely novel in our planning practices. Our draft plan for 1975, for comparison, consisted of 306 pages and \* \* \* for 1971 of only 260 pages." The complaint continues, counting the thousands of individual data—over 15000 altogether, 2000 alone for the energy plan. And the forms were not ready on time, so that electronic data processing was impossible (Erdmann, 1976, p. 47f). The increasing detail, with very few complaints against it getting into the press, is another sign that there are no attempts in the offing for renewed devolution. The codification and attempts at stability of methodology are easily understood when it is remembered that any new methodology must take quite some time to master: one reason for creating these stable long term planning orders is " \* \* \* to further reduce the labor expenditure in the plan preparation" (quoted from W-25/72, 21 June 1972, by Erdmann, 1976, p. 9).

Another reason for stability of planning procedures is the "ratchet" effect or its fear. The ratchet, the expectation that any information transmitted to superiors in planning documents or by actual production, may be used to raise enterprise targets, has always led to hiding "reserves," to understating true capacities and overstating needs. There have therefore been many calls for the improvement of long term planning, for making the FYP the basis for annual plans and for the stability of targets imposed by superiors (Brass and Steeger, 1975), coupled with incentives to enterprises to overbid these targets and reveal their true capacities. In fact, the first such scheme in the GDR dates back to 1964 (Keren, 1972b, p. 565). The present scheme

of counter-planning is based on the Soviet model which has been described by e.g., Berliner (1976) and analyzed by Weitzman (1976) and many others: the GDR scheme is no different, in that it provides for higher bonuses and increases in the wage fund for targets which are fulfilled after having been raised above the original control figures or even (as in the 1975 plan)—above the final annual plan target, provided the commitment to the higher target came by mid-February of the plan year (G B1 1974, pt. I, no. 63, 20 Dec. 1974), than if the original plan is overfulfilled. Now any scheme like this can work properly only if it is known that targets imposed in the future are not affected by these overbids, and ostensibly a prior fixing of targets, e.g., for the duration of a FYP, can do the trick. But this disregards unforeseen circumstances under which need for additional supplies of some commodities above the original plan may arise.<sup>70</sup> Will then the planners not increase producers' targets, and will they then not be guided in these increases by all the information in their hands regarding the enterprises capabilities? If not, what alternatives are there in the system, where prices are inoperative, to equalize supply to demand? For 1974, when counter-planning had been in vogue for some time, we still have complaints of the ratchet in action (Erdmann, 1976, p. 41). This notwithstanding, the GDR press is full of reports on the working of the counter-plan, giving the impression that heavy pressure is used to get enterprises actually to raise their targets. This, too, is contrary to the spirit of the scheme, and is not likely to lead to the disappearance of the fear of the ratchet.

During NES days an attempt was made to use a single or predominant success criterion, profits. This has never become the reality under NES (Keren, 1972b; Granick, 1975). But now there are claims that no single success criterion can exist, that a proliferation of criteria, of an increasing number of criteria, is unavoidable, even beneficial. The Planning Order (1975) carries a long nomenclature of "complex proofs of effectiveness for enterprises" and other organs: 12 groups of indicators are listed, some of them subdivided. They run from labor productivity (2 indicators) and freeing of labor force for other enterprises through profitability, to the production of output of a higher quality (Erdmann, 1976, p. 28f). The weighting of all these indicators for any particular enterprise cannot but be highly arbitrary. But these are really old and quite familiar problems.

*Pricing.*—In pricing the "who" and the "how" were affected in different manners by the system change. The how, the principles, did not change much; the who did. The circumstances, the environment in which prices were to be fixed, changed dramatically, and some old price forms long forgotten, fixed planning prices, returned.

The decentralization in price fixing rules is very pronounced. The attempt at devolution, at letting associations and enterprises fix prices, "self responsibility", with the principal checks coming from the buyers who had the right to go over the calculations, could not work well. In particular, since in the pressurized sellers' market of 1969–70, prices must have been of little concern to the buyers. With the deemphasis of profits concern with prices can only have declined.

<sup>70</sup> Cf. Steeger, W. No. 6/75, Mark 1975, p. 14–15, in JPRS-IEA No. 1304, p. 15.

The first regulation which reversed NES put pricing in the hands of the Price Office and the tip of the directive pyramid to be centrally planned (Keren, 1973b, p. 585f). An Order of May 1972 describes in detail the long and arduous way any new price has to take up the ladder of the hierarchy—maintaining inter alia role of the principal buyer, as a party to the process and additional check (GBI 1972, pt. II, no. 24, pp. 257ff).

The main principle of price setting did not change: the 1964–67 reform set prices with profits related to average production costs. Since 1968 profits were to be related to the capital stock tied up in the production of the good. These were the “Fondsbezogene Preise,” prices related to the capital fund. These prices were to be introduced without raising prices. That is, wherever profits were equal to or higher than required, capital related prices were introduced, and a dynamic price adjustment scheme was to keep prices always closely in line with costs, the latter including the profits margin proportional to the capital stock (Keren, 1973b, p. 568). A 1972 order on pricing of new products has the same provisions: the rules by which prices are calculated are uniform for an enterprise or a product group. Any new product would have its price calculated in accordance with these rules. If, however, costs decline or capital is spared and the profits rates for a product group rise above the profits normative (of apparently 12 percent), the responsible organ must take steps to have pricing rules for this group changed, and apply capital fund related prices (GBI 1972, pt. II, no. 67, p. 751f).

There is, however, also a qualitative change: there is much more concern with relative prices. This is felt in particular with new products, which have to have their “value in use” examined, and whose prices cannot exceed prices of other products of equal value in use. New products with higher use value or with an equal use value but lower costs present problems: how is the newly created surplus to be divided between buyer and seller? The obvious answer is that they have to be divided, but how was not clear at first (Reiher and Schwabe, 1976, pp. 979ff; W-19/75, 17 Sept. 1975, p. 18—from JPRS 66941). The rules of division—70 percent to the manufacturer—were determined in a 1976 decree (GBI, pt. I, No. 24/1976, 13 July, pp. 317–321 in JPRS-IEA No. 1523, p. 43). Administrative bodies are, however, inherently poor in establishing the “use value” of any commodity, so that the price which evolves will clearly be affected by those who press hardest, and these are most likely to be the producing enterprise.

The main event on the price front in the 1976–80 period is the new round of price adjustment which was started on 1 Jan. 1976. These were forced not by cost reduction but by cost rises caused by steep rises in import prices, mainly of raw materials throughout the past FYP but most severely during 1974 and 1975. The new CMEA agreement, which substituted an annual price change for a five-year one, ensures the continuation of this trend with fairly steep further rises in the prices of oil and other basic commodities during the coming FYP.

Price increases for the beginning of 1976 were decreed in mid-1975. These were to affect the whole gamut of raw materials, imported as well as domestic—oil and other energy bearers as well as metal ores, metals and even local potash and its products. The interesting fact

about these changes is the insistence on changing relative costs of various materials: from a relation of 1:9:1.2 in the prices of lignite brickettes to natural gas and heating oil, the price ratios were changed to 1:2.2:2.2,<sup>71</sup> and the price difference between copper and aluminum was increased by nearly 50% (Schmidt, 1975, p. 14).

What is significant is that enterprises are encouraged to accept the new relative prices as scarcity prices and to try to reduce costs at these prices. A familiar dichotomy arises here: in their output decision they are expected to follow exogenously given demand and plan targets, but in their input decisions enterprises should obey prices.

It is not only imported goods whose prices have been raised: domestically produced minerals like potash had prices increased "to cover \* \* \* the actual expenses of the national economy in the coming years, taking into account the worsening geological conditions or growing difficulties in the extraction of mined raw material" (Damm, 1975, p. 11). Here the aim is to encourage the production of these materials: "up to now enterprise losses \* \* \* inhibited the stronger upgrading \* \* \*" of some of these materials (Damm, 1975, p. 11; Sindermann, ND 6/7 Dec. 1975, p. 5). This cannot be a once-and-for-all correction: in the mining of the principal domestic energy source, lignite, the ratio of the overburden is to rise by 15% in 1980 and by a third by 1990, so that a gradual relative price rise is in store. Further price rises for user industries of these products were planned for the beginning of 1977.

The mechanics of the new price creep are as follows: user enterprises whose costs rise because of the 1976 price hikes, are not to be financially disadvantaged. They are to be compensated by a reduction in their net profits tax GB1, 1976, pt. I, no. 7, pp. 130-31; from JPRS, IEA, no. 1448). Later on, at the start of another plan year, their own prices are going to be adjusted, and so on. (W 15/75, 23 July 1975; from JPRS-IEA no. 1362). It seems, however, that only those commodity groups most affected by the rises in energy prices will be affected by this round of price changes.<sup>72</sup> There are indications that costs of capital, and hence depreciation, are wildly out of line, since investment costs have risen substantially since the price reform.<sup>73</sup> This, however, would indicate that a complete overhaul of the price system, was necessary, and this does not seem to be contemplated.

One other element in the price system is the return of the fixed planning prices. These had been absent since early NES days. The unchanging planning prices were based on 1955 enterprise prices and were anachronistic even then, no thorough price reform having taken place in the GDR since war days.<sup>74</sup> Under NES, with the stress on marketed rather than produced output, effective exchange prices were used for planning purposes rather than fixed prices, and the new set of fixed 1967 prices was used for statistical purposes only. All enterprise plans were expressed at current prices.<sup>75</sup> For the

<sup>71</sup> (Schmidt, 1975). The units are not stated in the source: prices are apparently per BTU.

<sup>72</sup> A source mentions, in addition to energy, raw materials and other materials "selected industrial products" (WW 2/67; from JPRS-IEA no. 1453).

<sup>73</sup> The costs of chemical installations are said to have risen by 50 percent since the price reform of 1964-67 and those of some others by up to 4 times (WW, 7/75, p. 105).

<sup>74</sup> See Stolper (1960) for a discussion of these prices.

<sup>75</sup> Or current and previous year's prices.

period of the new FYP January 1, 1975 enterprise prices are to be used for the monitoring of some indicators, particularly labor productivity. Three reasons come to mind why the plan prices have been reinstated: prices in the GDR are sure to be changing appreciably over the FYP period, and the 1967 prices are already out of date. Another reason may be that with increasing centralization and closer supervision the bureaucrats feel this is a tool which can be of use, hoping that its ill effect—i.e., the existence of another alternative for weighting output, an alternative which will be far out of line with relative cost—may be avoided. And lastly, the Soviets use such prices, and a convergence to the Soviet way of doing things is a policy objective (see above).

This should not be taken to say that the system has returned to the pre-1964 pattern, without any imprints of NES days. Times have changed. The political climate is different and must have some effect on the economic system, and technological changes in data processing make the operation of the modern and complex economy under a centralized system possible, where it might have collapsed under the old abacus days. NES has left its marks, too: possibly in a new breed of cadres and a different career system (Granick, 1975), and in certain features of the incentive system. The unitary enterprise profit statement, which comprises exports profits as well as profits from local sales is still there. So is the fairly uniform capital stock tax. But little has remained of the conception of keeping prices as close as possible to costs by continual adjustment—the present steps of price changes seem to be more of a stage in a familiar once-and-for-all price adjustment. Little remains of the belief that some sort of a division of decision-making is possible, given a proper and relatively simple incentive system and suitable prices, which may save the top of the hierarchy from getting involved in small as well as large problems. In all this the spirit of older times has triumphed.

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## APPENDIX A

### THE TAUTNESS OF ANNUAL PLANS

A fuller discussion on the meaning and measurement of tautness of plans can be found in (Keren, 1973b). A few words on the subject need, however, be said here too.

A fulfilled plan does not prove that a plan was slack, i.e., realistic and conservative. Nor does an unfulfilled plan prove that a plan was taut and overambitious. When we say that a plan is taut we mean that under normal circumstances, without extreme efforts, it would be unlikely to be fulfilled, and vice versa for a slack plan. But to know what an economy is capable of achieving under "normal circumstances" requires more knowledge of it than we possess. Hence a surrogate is needed. The one used in Table A-1 (and also in Table 4 in Keren, 1973b) is rate of growth actually attained in the past for any given variable. Two different past actual rates are presented:  $a_0$  is the previous year's rate of growth,

whereas  $a_1$  is an average of the three past years' growth rate: the former may be overly affected by events particular to any given year. The reader should note that all series but one are in fixed prices: the series on retail sales, or production of goods for retail sales, is available only at current prices.<sup>77</sup>

TABLE A-1.—INDICATORS OF TAUTNESS  
[In percentage increases]

	NMP <sup>1</sup>			Industrial output <sup>1,2</sup>			Investment <sup>1,3</sup>			Retail sales <sup>3</sup>		
	$a_0$	$a_1$	p	$a_0$	$a_1$	p	$a_0$	$a_1$	p	$a_0$	$a_1$	$p^b$
1968.....	5.4	5.0	5.4	7.5	6.5	6.4	9.2	8.6	10.7	3.9	4.1	3.9
1969.....	5.1	5.1	6.0	5.0	6.2	7.0	10.3	8.9	11.0	4.9	4.1	4.7
1970.....	5.2	5.2	6.3	7.5	6.7	8.0	15.4	11.6	11.4	6.0	4.9	4.3
1971.....	5.2	5.2	4.9	6.4	6.3	5.6	7.3	11.0	-1.5	4.3	5.1	4.2
1972.....	4.5	5.0	4.6	5.5	6.5	5.5	.6	7.6	2.0	3.9	4.7	4.0
1973.....	5.7	5.1	5.7	7.2	6.4	6.5	3.9	3.9	9.0	6.0	4.7	6.2
1974.....	5.5	5.2	5.4	6.8	6.5	6.7	8.0	4.1	5.3	5.8	5.2	4.8
1975.....	6.3	5.8	5.5	7.4	7.2	6.3	3.8	5.2	4.4	6.1	6.0	4.6
1976.....	5.0	5.6	5.3	6.4	6.5	6.0	4.1	5.3	6.5	3.6	5.2	4.0

Note:  $a_0$ —Actual, previous year's rate of increase;  $a_1$ —actual, average of previous 3 yr rate of increase; p—planned increase for current year;  $p^b$ —Warenfonds, production of goods for retail sales.

<sup>1</sup> Fixed 1967 prices.

<sup>2</sup> Industrielle Warenproduktion.

<sup>3</sup> Current prices.

<sup>b</sup> Targets were increased early in plan year above this level.

For the pre-1971 years the tautness of 1969 and 1970 is clear: production targets, both NMP and industrial output, were to increase substantially faster than in the past. As for the use of resources—in 1969 investments were to increase somewhat faster, without a decline in consumption. 1970 was basically the continuation of 1969 trends.

All 1971 targets, on the other hand, were below the potential, so it seems. If they were not fulfilled, there were special circumstances, i.e., bottlenecks and a need for switching of resources, which make for present growth capacity to be below what was achieved in the past. For 1972 to 1974 the plans for output lie both in the range of the two indicators, justifying, perhaps, the East German appellation of "tense but realistic" plans. For the 1972 and 1974 the same is true for the resource use indicators. 1973 is somewhat more taut, with both investment and retail sales to grow faster than in the past (and than NMP), and this plan was, indeed, underfulfilled. For 1975 the sights are, again, lowered, with all targets below past levels, except for investment, which is within the range of the past. 1976, the first year of the new FYP (but whose targets were enacted before the directives of the FYP were published), shows relatively slack targets for NMP and industrial output, but a substantial increase in the investment target, i.e., a shift in resources which may require even more slack to succeed.

To sum up: the main difference between planning strategy under the post-Ulbricht regime and its predecessor is that in 1971-75 we have no wild targets. We may have some which are on the high side, but no repetition of the wishful thinking which raised the targets for 1969-70. Was Sindermann, the then Chairman of the Council of Ministers, referring to the latter when he introduced the 1975 plan: "The targets of the national economic plan for 1975 take account of the real possibilities and conditions in our country. Wishful thinking is foreign to us in this plan" (W-52/74, 4 Dec. 1974, p. 2). One sees during this period more discussion of the problems of how much to pressure the economy, not only in leaders' speeches (e.g. Honecker, W-45/73, 7 Nov. 1973), but also in more down to earth discussions on criteria for demanding but realistic plans "to which Soviet Economists refer as taut plans."<sup>78</sup> A brief treatment of the problems of tautness, with some elements of uncertainty touched upon can be found in Matho and Schilling (1975, p. 1317).

<sup>77</sup> A consumers' price index, which could be used to deflate this series, is available (see Table 6). It is, however, not thought to be reliable and the Yearbook itself claims that it should not be used for deflation (Statistical Yearbook 1975, p. 294).

<sup>78</sup> D. Weger (W-48/73, 28 Nov. 1973, p. 10). Though best past value and statistical series are used in plan preparation and defense, one must beware of them, he says, because much depends on the starting level, which may be aut or even "soft."

## APPENDIX B

## ON THE USE OF PURCHASING POWER PARITIES FOR CALCULATING PRICE INDICES

In what follows, subscript E will refer to the GRD, W to the FRG; superscripts 1 and 2 to two time periods.

The DIW has from time to time (mid-1960, the beginning of 1966, mid-1969 and the beginning of 1973) measured the relative purchasing power of the GDR Mark compared to the DM. The weights used in comparison were based on the consumption baskets of two types of families, four member wage earners' and two member pensioners' families, using for each both GDR and FRG consumption patterns. Thus for each point of time we may have as many as four<sup>79</sup> different purchasing power parities. Those calculations which use western (FRG) weights can be used in conjunction with West German price indices to construct a sort of a GDR price index with western weights.

Let  $E_{W^1}$  and  $E_{W^2}$  be two such calculations, each showing the cost in East German Marks of a basket whose value is 1 DM, and  $I_{W/W}$  a FRG price index with FRG weights. Then

$$E_{W^1} = \frac{\sum p E^1 q_{W^1}}{\sum p W^2 q_{W^1}} \quad E_{W^2} = \frac{\sum p E^2 q_{W^2}}{\sum p W^2 q_{W^2}}$$

$$I_{W/W} = \frac{\sum p W^2 q_{W^*}}{\sum p W^1 q_{W^*}}$$

where p is a price vector and q is the quantity weight where the superscripts ',', '\*' serve to distinguish the weights used in the three indices.

Assuming  $q_{W^1} = q_{W^2} = q_{W^*} = q_W$ , then  $I_{E/W}$  the GDR price index with FRB weights can be constructed as follows:

$$I_{E/W} = \frac{E_{W^2} I_{W/W}}{E_{W^1}} = \frac{\frac{\sum p E^2 q_W \sum p W^2 q_W}{\sum p W^2 q_W \sum p W^1 q_W}}{\frac{\sum p E^1 q_W}{\sum p W^1 q_W}} = \frac{\sum p E^2 q_W}{\sum p E^1 q_W}$$

The meaning of these assumptions is as follows: first, that the FRG relevant consumption basket has not changed substantially between the two points of time; second, that the basket used in the construction of price index is similar to that of the representative families, used in comparing purchasing power parities.

$I_{E/W}$  can then be used as a proxy for  $I_{E/E'}$ , the GDR basket with GDR weights, if  $q_E$  does not differ too much from  $q_W$ . This assumption is not borne out by the facts: Table B-1 shows how the purchasing power comparison is affected by the weights used

$$\left( E_{E^t} = \frac{\sum p E^t q_E}{\sum p W^t q_E}, t = 1, 2 \right):$$

TABLE B-1.—COST IN GDR MARKS OF A BASKET COSTING 1 DM

	4-member wage earners' families		2-member pensioners' families	
	$E^1_{IN}$	$E^1_E$	$E^2_{IN}$	$E^2_E$
Mid-1960.....	1.33	1.30	(1)	(1)
Beginning 1966.....	(1)	1.19	1.14	1.03
Mid-1960.....	1.20	1.13	1.01	.80
Beginning 1973.....	1.14	.99	.95	.80

<sup>1</sup> Not applicable.

Source: Mitzscherling et al. (1974), pp. 252 ff.

<sup>79</sup> Though not all four calculations were performed for all four periods.

TABLE B-2.—FRG PRICE INDEXES, 1962 EQUALS 100

	Consumers Price Index	GDP consumption deflator <sup>2</sup>
Mid-1960 (June-July).....	95.1	94.1
Beginning 1966 (February-March).....	111.8	111.0
Mid-1969 (June-July).....	119.4	119.4
Beginning 1973 (January-February).....	143.5	143.2

<sup>1</sup> Number is average of cost of living index for months in parentheses.

<sup>2</sup> Statistisches Jahrbuch für die BRD, 1974. Index is assumed to represent June and July of year. Any other month obtained by a proper weighting of adjacent years' indexes.

# HUNGARY: ECONOMIC PERFORMANCE, POLICY AND PROSPECTS

BY RICHARD PORTES\*

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## I. INTRODUCTION

Hungary is a small country whose population of 10½ million (294 per square mile) has been growing at only 0.4 percent p.a. over the last decade. It is poor in natural resources, with only large deposits of bauxite and some natural gas, uranium, and recently discovered copper. It is therefore a transforming economy, heavily dependent on foreign trade.<sup>1</sup> Hungary is at a middle level of economic development among the East European countries, standing with Poland between the more industrialized GDR and Czechoslovakia and the faster-growing but still lower-income Romania and Bulgaria. It has no special geopolitical or strategic role, and its foreign policy, though intelligent and sophisticated in implementation, clearly follows the lead of the USSR in all major respects.

What, then, is important or noteworthy about Hungary? Its politics, since the extraordinarily violent uprising in 1956, have shown an equally remarkable consolidation and stability under the leadership of Janos Kadar (see Gati, 1974, and Robinson, 1973). In those two decades Kadar has achieved a degree of political legitimacy and broad-based authority perhaps unique among the CMEA countries. His "alliance policy" has attempted to reconcile the interests and claims of workers and peasants, Communist Party members and the non-Party majority, focussing them on the goals of steadily rising living standards and modernization, while wholeheartedly accepting the primacy of the Soviet Union in Hungary's international orientation. This political context is essential to any interpretation of the most distinctive feature of the Hungarian economy: the "economic reforms" of 1968, which replaced central physical allocation and obligatory plan targets with "economic regulators".

The reforms and the "new economic mechanism" which they introduced gave Hungary an economic system significantly different from the other countries of Eastern Europe, combining state ownership of the means of production with economic planning, but without the command system of allocation used to implement the plans elsewhere. Instead, the plan was to be the framework for a "guided market" allocation system. The economy would be run by macroeconomic management, credit policy, taxes and subsidies, exchange rates, etc., all operating on a profit-based incentive system for enterprises. Direct, operative intervention by the central authorities into enterprise affairs was to be exceptional, undertaken only to deal with specific disequilibria which would not respond quickly enough to the economic regulators. And the regulators themselves were to be as uniform as possible at the micro level, so that with a more rational and flexible price system, all firms would face similar conditions, and profit would properly measure their performance. It would thus provide an appropriate basis for increases in the remuneration of both workers and

<sup>1</sup> Estimates of the ratio of exports to national income vary widely, depending on the exchange rates and concept of national income used. For 1975, if we take total exports in dollars converted to forints at the tourist rate and divided by the Hungarian figure for GDP at current prices, we get 31.6 percent. If instead we start with exports in transferable rubles and in dollars for the two separate "clearing areas" and convert at the "foreign trade multiplier" rates, we get 47.3 percent of GDP. And if we take total exports in dollars valued at the dollar foreign trade multiplier, divided by net material product (NMP), we obtain 67.2 percent. Finally, SE 75, p. 57, gives the following data for exports as a share of GDP at current domestic prices: 20.7 percent in 1960, 29.0 percent in 1965, 30.7 percent in 1970, and 42.8 percent in 1975 (the price reform of 1968 would seriously affect any comparison of 1965 and 1970).

managers, as well as for the allocation of funds for new investment. Although the changeover to the new system occurred simultaneously in all these areas, there were "brakes", intended to be short-run tactical measures to deal with the problems of transition, but without compromising any principles of the long-run strategy. Thus many price controls, differentiated taxes and subsidies, and administrative restrictions were to be removed as rapidly as possible.

In this paper I shall discuss how far the reformers' conception has been realised in practice and evaluate the economy's performance under the new system, comparing 1968-1975 (and within this; the Fourth Five Year Plan period, 1971-75) with 1961-1967.<sup>2</sup> This evaluation will be primarily in terms of the authorities' own goals and their expressed priorities among them. It will also consider the environment in which the reforms have unfolded; how the environment, economic performance, and political conditions have affected the system itself; and how priorities and policies appear to have altered as revealed by the authorities' actions. In particular, some observers have identified the Central Committee plenum of November 1972 as a major reverse for the reformers, beginning a backwards movement which culminated in the dismissal in March 1974 of Central Committee Secretary Rezső Nyers, the chief architect of the reforms from 1964 onwards. It will therefore be necessary to interpret very carefully the events of 1971-74, so as to draw what lessons we can and to give some basis for predicting how the system will develop henceforth. I then discuss actual and probable changes during 1976-80 in the environment, policies, and the system and assess the prospects of the economy to 1980. Finally, I attempt to draw some generalizations from the Hungarian experience.

## II. THE ECONOMIC REFORMS OF 1968

### 1. *Motives for Change*

I have myself previously analysed the background to the Hungarian economic reforms, the measures themselves, and changes through 1971 (Portes, 1970, 1971, 1972, 1973). There is indeed a very substantial body of excellent English-language literature of various vintages, by both Western and Hungarian authors; a selection is given in the References.<sup>3</sup> I shall therefore omit details and provide here only a brief historical setting, the motives for reform, and the basic features of the 1968 system.

On one fundamental point of interpretation I should make my position clear at the outset. I do not believe that the causes of the Hungarian reforms are to be found in the political sphere. Rather, I take

<sup>2</sup> Although I shall refer occasionally to output and productivity performance in agriculture, this paper otherwise omits any substantive discussion of the agricultural sector or the rural sphere more generally. This is due to limitations of both space and the author's knowledge, but the reader will recognize that an understanding of the agricultural sector is important for a more complete picture of consumer goods supply, the labor market, income distribution, prices and the political climate.

<sup>3</sup> Among the more comprehensive Western studies, particularly important are Balassa (1970, 1973), Granick (1975), Hare (1976 a, b), Marer and Pall (1971), Robinson (1973), and Wiles (1974); and from the Hungarian literature, Friss (1969) and Gado (1972). In general, I have not cited the voluminous Hungarian-language material except for data sources and to establish specific points, partly because anyone competent in the language is likely to be familiar with this material already. Many important papers by Hungarian authors can be found in the English-Russian journal of the Hungarian Academy of Sciences, *Acta Oeconomica*, and there are various sources of translations. I have also omitted all diacritical marks from Hungarian words and names.

the economic motives to have been primary. The reforms would never have been undertaken if the economic difficulties discussed below had not been perceived by the authorities, rightly or wrongly, as threatening their entire economic policy and the political equilibrium based on it, and as problems whose solutions could not be found within the old command economy framework. That the relative stability of Hungarian politics and unity of the political leadership was a *necessary* condition for the economic reforms is undeniable. But the reforms involved clear political risks, partly because they did in fact generate some political tensions, not all of which were foreseen. Thus I regard domestic and external political conditions throughout as constraints on the economic reforms, delineating the range of acceptable changes. The reforms were not a byproduct of a power struggle in the leadership, nor of ideological shifts, nor a reflection of changing weights of various interest groups (technocrats, managers, intellectuals, industrial workers, regions, etc.), nor the expression of some spontaneous upsurge of pressure for greater democracy and decentralization. They were a pragmatic response to a complex of related economic problems, and their main objective was to create the conditions for balanced economic growth with steady increases in living standards.

The history of postwar Hungarian economic policy and the means by which it has been implemented falls into clearly defined periods. Nationalization was virtually complete by 1950. From then until the end of 1956, the direction of production was highly centralized. All-embracing central physical allocation of commodities, centrally determined and highly detailed current production plans, and total central control over investment guided the economy in natura. All this was in the service of a few simple policy goals: the maximum rate of growth of industry, with primary emphasis on heavy industry, and a correspondingly high saving ratio; and an attempt at a form of autarchy, which in practice meant import substitution for a wide range of basic industrial goods. The development strategy and planning methods were fundamentally those which had been used in the Soviet Union since the late 1920s. Although these policies brought quantitative results, they were carried to extremes. In early 1957, many steps were taken to correct the major faults of the system, introducing partial decentralization of the command economy mechanism. Binding plan targets, fixed prices, and central physical allocation remained, but all were more or less rationalized, and many decisions which had previously been taken by the ministries were left to the enterprises. In economic policy, there was a move towards a more balanced growth path, with a greater role for foreign trade and more emphasis on increasing consumption.

Increased pressure on the economy in 1959–60 (an investment boom and recollectivization of agriculture) brought uncoordinated, piecemeal recentralization. The authorities tried to decentralize again in the industrial reorganization of 1963, by delegating short-run decisions from the ministries to newly created large enterprises and trusts. But with no real change in the command mechanism, even the large new units saw little advantage in asserting any independence. They turned to the ministries for "tutelage", and when pressure on the economy again increased in 1964–65, the ministries fully resumed their direction of the enterprises.

By 1964, the authorities found that the rate of growth of national income was falling, and they were unable to raise living standards at the rate they thought necessary. Plans were over-optimistic, and the planners themselves were so overwhelmed by details that they could not properly plan structural changes. Five related groups of problems faced the economy:

(a) *Foreign trade.*—The early attempts at autarchy had merely increased the economy's dependence on imported materials. It was therefore necessary to expand exports. But the structure of trade was unsatisfactory—Hungarian machinery was of poor quality, acceptable only to other Comecon countries, and Hungarian trade with the West was mainly an exchange of agricultural goods for raw materials. The balance of trade deficit was rising steadily throughout the period 1962–64, and the hard currency deficit was dangerously high in 1964. Thus Hungary could not import enough advanced Western machinery, nor could competition from imports be used to prod domestic producers into improving quality. Exports were insufficiently specialized, so there was no opportunity for long production runs and economies of scale. The distorted domestic price system hindered rationalization of the trade structure.

(b) *The labour market and productivity.*—Hungary was running out of labour to transfer from agriculture into industry and exhausting the possibilities for increasing participation rates. To compensate for falling growth rates of industrial employment by increasing capital inputs even faster would quickly run into diminishing returns, so more rapid technical progress was essential. The planners thought also of stimulating productivity by improving the incentive system.

(c) *Matching the structure of supply to that of demand* at the disaggregated level was particularly difficult for the Hungarian economy in the early 1960's.—This was evident in foreign trade, on consumer goods markets and in inter-enterprise relationships. The quality and variety of output were poor. More fundamentally, the objective of satisfying demand was neglected in the enterprises' choice of production programmes, and the planners were unable to solve the problem with directives from above. One manifestation of the problem was excessive stockbuilding, and even with large and rapidly growing stocks, there were still shortages of material inputs (often disrupting production) and of consumer goods. Throughout the production structure there was evidence of the planners' poor choices of industries to expand and goods to produce. Structural change was required, but there were no meaningful prices to guide it.

(d) *Investment.*—There was substantial excess demand for investment goods from 1959 on, with consequent dispersal of resources and delayed completions. Projects were poorly prepared and executed, so incorrect technical choices and large cost over-runs were common. Replacement and modernization were neglected in favour of new plants.

(e) *Innovation and technical progress.*—The planners saw dynamic inefficiency in terms of rising incremental capital-output ratios and slow growth of labour productivity. They thought that

initiative at the enterprise level, fostered by market pressures on enterprises to raise efficiency, and utilizing more direct enterprise contacts and cooperation with foreign suppliers of advanced technology, could generate the technical progress needed to compensate for slower growth of the labour force.

Thus the authorities believed that changes in the structure of the economy and the goals of economic policy required changes in the economic mechanism: better planning; a more flexible system of short-run management of the economy; better incentives, information and criteria for choice; and more direct relationships between foreign trade and domestic production. Concern for the uses of output, especially consumption and exports, was replacing the previous emphasis on growth of output.

Partial decentralization within the basic command system had been tried in 1957, and a technocratic rationalization of that system, even with some of the mathematical planning techniques which Hungarian economists were pioneering (Kornai, 1975) did not seem promising. The reformers therefore sought to construct a complete and internally consistent guided market system, elaborating it in great detail over three years and introducing a comprehensive set of measures en bloc in 1968. With equal care, they tried to prepare the population, the party apparatus, and the economic administration for the changeover. Although there was extensive public debate on various aspects of the new system, and there were clearly differences in the Party leadership, after the Central Committee decided in May 1966 to go ahead, public unity prevailed.

## *2. The New Economic Mechanism*

The decrees and regulations governing the new economic mechanism cover thousands of pages, and the literature on it cited above is itself extensive. Here, therefore, the briefest possible summary is appropriate. Plan targets became primarily indicative, "binding" on ministries but no longer a basis for commodity allocation or incentives. The annual plans still prescribed specific measures in credit policy, price policy, state investment projects, etc. But the emphasis was to shift towards the five-year plans as guides for enterprise and branch ministry actions, and long-term "central development programmes" for state investment policy (e.g., the programmes for development of the public vehicles industry, petrochemicals, the aluminum industry, etc.). Physical allocation was virtually eliminated, as was "control by the forint" (detailed credit control according to the input and output plans). They were replaced by horizontal direct relations between enterprises in a highly regulated market. Part of the regulation was the price control apparatus. Although there was a complete reform of producer prices, bringing them much nearer to costs (and, as it transpired, not too far from equilibrium), and considerable freedom for price changes was introduced, many prices remained centrally fixed or subject to maxima, and the National Materials and Price Office disposed of many techniques for indirect price control. The consumer price structure remained basically unchanged, though there was some unification of turnover tax rates and again, substantial scope for enterprises to change the prices of goods not regarded as basic necessities.

Producers and users were in principle to be free to import or export as they chose (some with newly granted direct export or import rights, the rest through foreign trade enterprises operating on commission), with foreign prices converted directly into domestic prices by separate uniform ruble and dollar exchange rates. In practice there were various informal constraints on foreign trade decisions, as well as extensive tariffs and export subsidies, but the previous complete separation of foreign and domestic markets was eliminated.

Enterprise incentives were made dependent on profits, which through a complicated tax system were broken down into four parts: tax; a reserve fund; a "sharing" fund (for bonuses); and a development fund (which, augmented by a part of amortization funds, together with credits, was to finance enterprise investment, a substantial part of which was to be decentralized). Although the tax system did prescribe the breakdown of profits between the funds, and the marginal rates of taxation were high (especially on the sharing fund), nevertheless both the sharing and development funds varied directly with total profits, and the remuneration of both managers and workers varied with the sharing fund. Incorporated in this taxation system was a version of "average wage control", which in effect reduced the post-tax sharing fund *pari passu* with any increase in the average wage paid by the enterprise.

Finally, a substantial part of the administrative authority over enterprises which did remain was redistributed, away from the Planning Office and branch ministries to the banks, the Materials and Price Office, and the functional ministries (Finance, Labour, Foreign Trade). Their decisions were often in fact taken in interdepartmental (interministerial) committees. The branch ministries were to continue to exercise "ownership" rights—in particular, appointing managers—as well as to prepare sectoral development plans. But their operative intervention into enterprise decisions was to cease. The industrial structure, however, remained almost unchanged, still with the high degree of concentration created in the 1963 reorganization. As before 1968, there were about 800 state industrial enterprises and 800 industrial cooperatives, the former producing well over 90% of industrial output. The state enterprises average 2000 employees each, and in 1968, almost 50 had over 5000 employees each. There are however no industrial associations of the type familiar elsewhere in Eastern Europe.

There were two basic motives behind the use of the formidable array of "economic regulators." First, the authorities only trust the unregulated market, working through the profit motive, within rather narrow limits. They use planning not merely to deal with classical causes of market failure but also to retain central control over the broad features of structural change, foreign economic relations, income distribution, the allocation between public and private needs, and macroeconomic equilibrium. The objectives of the reforms were to bring greater efficiency, more innovation and initiative, and the like, but not at the cost of surrendering central authority in these key areas of economic policy. The authorities' goals as discussed below were in some cases clearly unattainable in an unregulated market.

Second, there were the regulators initially conceived of as "brakes" on the otherwise too abrupt transition to the new mechanism. Two

decades under the command system had generated behaviour patterns and structural disequilibria with which the market could not cope, at least for some time. Some residual command authority, price and average wage controls, differentiation between enterprises of some taxes and subsidies, constraints on enterprise freedom to dispose of their profits, to move into new lines of production—all these were motivated by the “legacies” of the old system. The previous pattern of prices, production, and use had been distorted, and the reformers did not believe they could remove the distortions before these had been properly revealed by the new system itself. Great disparities between enterprises in efficiency might be signalled by the subsidies needed to keep them afloat—but without the subsidies, the required structural change would be disruptive to both economic and political equilibrium. There were other legacies: the monopolistic industrial structure, which again was left untouched partly because a stable organizational environment was thought necessary for the transition, partly because it was unclear how much deconcentration was desirable; the existing group of managers, trained in the command system and often hesitant to take the risky decisions essential to any proper use of their new autonomy; enterprise defense mechanisms (such as materials hoarding) developed under physical allocation and taut planning; and general “concealment of reserves” for fear of the “ratchet effect,” i.e. the setting of next period’s plan as an increasing function of this period’s performance.

### *3. The Authorities’ Goals*

Janos Kadar has always taken domestic and external political considerations as co-ordinate and coequal. His most important goals have always been to maintain the leading role in the society of a unified Party and to maintain the primacy of the USSR and Hungary’s other CMEA partners in her political and economic relations. It was hoped that the reforms would promote the former by improving the functioning of the economy and its capacity to satisfy the population’s needs, while no fundamental conflict was seen between the new mechanism and Hungary’s participation in CMEA (and there was some hope that other CMEA countries might imitate the Hungarian reforms).

Both these objectives excluded from discussion any version whatsoever of workers’ self-management. The workers’ councils which arose spontaneously in 1956 had challenged Party authority; and the Soviet Union’s strong antipathy to workers’ control was clear. In any case, the Hungarian authorities were sufficiently concerned about inflation that they had no desire to follow the Yugoslav example. None of this was taken to rule out seeking some “industrial democracy” through expanding the role of the trade unions.

Next in the order of priorities was full employment. Before 1968, the phrase “greater mobility of labor” appeared frequently in the reform discussions. But it had undesirable connotations for workers (later, the planners would complain about excessive labor turnover), and at all levels, the great majority rejected the view that “slack in the labour market” was necessary for the proper operation of the new system. Indeed, Granick (1975) has built a far-reaching critique

of the new system on the hypothesis that the reformers went so far as to commit themselves to total job security, in the sense that no job could be eliminated if the incumbent were unwilling to be transferred elsewhere, regardless of how many vacancies might be available. I dispute this argument in Sec. III.3, below, but there can be no doubt of the importance of the full employment objective.

Only slightly less weight was given to the goals of controlling consumer price inflation and raising the rate of growth of living standards. One could in fact argue that public opinion was more sensitive to price increases than to the unlikely event of unemployment. There appeared to be a "perverse" money illusion (Portes, 1972, p. 642), and the planners therefore were afraid that the population would react sharply to price increases, even if real incomes kept rising at the previous rate or better. On consumption, they hoped to do better than the record of the early 1960s, and in particular to raise the lowest real incomes more rapidly, with special efforts to improve minimum housing standards. Services were seen as the main area in which provisions should be expanded.

All these goals were so important as to approach the status of inviolable constraints. The specific intentions behind the reforms were however the object of the exercise, after all. Thus points (a)–(e) in II.1 above were criteria for judging the performance of the economy. The planners stressed structural change, modernization, and balance of payments equilibrium, especially on hard currency markets. To achieve these they were willing to emphasize incentives and the motivation of greater efficiency and initiative, even at some sacrifice in egalitarianism of the income distribution. They thought that profits could play the key role here, and they underestimated both the public's sensitivity to distributional changes and the extent to which the "brakes" might distort the performance-rewarding function of profits.

### III. DEVELOPMENTS, 1968–75

#### 1. *Changes in the Environment*<sup>4</sup>

Just as the initial discrete change in the economic system was not a consequence of any single discrete change in the environment facing the economy, so no single event could have been expected to bring back the command system—except perhaps a sudden diktat from the USSR. Many observers did indeed conjecture that the Soviet response to events in Czechoslovakia in 1968 would convey precisely this signal to the Hungarians. But Hungary had carefully avoided the Czechoslovakian excesses, and the Soviet Union knew Kadar's priorities to be as we described them above. Thus despite superficial similarities between the two cases, the convulsions next door never seriously threatened the development of the reforms. Nor did the disturbances in Poland in December 1970 and Gierek's accession to power have any direct impact on Hungary, except insofar as they may have made the Hungarian leadership more sensitive to the importance of the urban blue collar workers and their real incomes (see III.3 below).

<sup>4</sup> "Environment" refers here and below to all the exogenously given circumstances in which economic policy and the economic system operate—"exogenous" meaning outside the control of the authorities during the relevant time period.

A more identifiable effect can be seen in the Hungarian response to changes in CMEA economic relations, especially the promulgation of the Complex Programme in the summer of 1971. For it then became clear to all but the convinced optimists that Hungary's major trading partners were not going to make any major switch to direct, flexible interenterprise negotiations; that although a ritual bow was made to monetary reform and some form of currency convertibility in the bloc, they had in fact been tabled *sine die*; and that no decentralization, but rather centrally determined specialization in production was all that could be expected, as well as the assurance of continued raw material supplies (at the cost of some Hungarian investment in its partners' extractive operations). Moreover, whereas in 1965-67 the atmosphere of economic reform elsewhere in Eastern Europe had favored the Hungarian reformers' conception that their own reforms would develop further after 1968 in harmony with their partners', by the early 1970's this too was evidently a false hope.

Other international events were equally important. The Soviet rapprochement with the U.S. and rapid growth of their economic relations from 1972 until the beginning of 1975 significantly loosened the constraint which Hungary had felt on its own economic relations with the West. Thus, having borrowed \$75m. in public bond issues and syndicated Euromarket loans in 1971, Hungary had further large public borrowings of \$70m. in 1972 and \$90m. in 1973 (Table 36), even before the oil price increase hit the balance of trade. Until the Stevenson and Jackson-Vanik amendments led the Soviet Union to abrogate the US-USSR Trade Agreement, Hungary was also hoping for MFN treatment from the US; but although it has no emigration problem, Hungary could not adopt Romania's independent line and make its own separate deal with America—another example of Kadar's deference to Soviet sensibilities. Further unfavourable developments in Hungary's trade with the advanced industrial countries came with the enlargement of the EEC, which made even more of Hungary's major trading partners join those which already applied the common external tariff to her; and with the Western recession which began in 1974, adversely affecting Hungarian exports.

The most important external development, of course, was the rapid rise in world prices of raw materials during 1973-74, especially the price of oil. Hungary's terms of trade deteriorated drastically (Tables 29, 30, discussed in III.2 below), first with the West and LDCs (1973-74), then in CMEA (1974-75). Meanwhile the absolute price levels were moving so quickly and unpredictably that policies for dealing with them were purely *ad hoc* for some time (see below). Both the inflationary impact of the rising price levels and the real income consequences of the terms of trade deterioration were central features of the period from 1973 onwards.

Internally, the major environmental change was fully expected by the planners, because it was demographic. The labour force had been growing rapidly in 1967-70 (SE 75, pp. 2-3), a "demographic wave" from the ban on abortions in the period 15 years before, but the ban had lasted only four years. Policies geared to absorb the bulge had to be replaced by policies to deal with virtually no labour force growth at all.

## 2. Performance

The data themselves tell much of the story here, though they require some interpretation, and there are certain important points on which the evidence is unavailable or unclear. Overall, there was no slackening in the dynamism of economic growth, acceleration of real income increases, rather good control of inflation in the circumstances, but lack of effective control over investment, whose effects (with the terms of trade decline) give a mixed picture in the balance of trade.

Turning to the tables, we note immediately in Table 1 that our comparisons between 1961-67 and 1968-75 will be affected by the fact that 1966-67 were the years of fastest NMP growth during the entire period 1961-75 (see the discussion in Portes, 1971). Nevertheless, the overall growth rate of NMP during the period under the reforms is up by about 1 percent, although growth rates in both agriculture and industry are slightly down from 1961-67. After the reforms, industrial growth fell off initially (see also Table 14), but then picked up substantially. The series for agriculture shows the effects of the serious floods in 1970 and the weather in 1974-75 as well. On the side of uses of NMP, the growth rate of personal consumption is clearly up, that of total net accumulation (including stocks and unfinished investment) down, but that of fixed assets up considerably. This immediately suggests that stock accumulation has fallen, and Table 2 clearly shows considerable improvement in this respect after 1968. Even in 1971 and 1974, the share of inventory accumulation in NMPD<sup>5</sup> was less than the average for the pre-reform period. In these years, however, increases in uncompleted investment also take an unusually high share of NMPD; and these are years of exceptionally large import surpluses.

Tables 1 and 2 already reveal, underneath the rather steady growth of NMP, an unevenness in the pattern of expansion. We get a fairly clear and consistent picture of the sequence of macroeconomic developments from them and the tables on investment (7), industrial output and employment (14-16), agricultural output (17), prices (23-25), incomes (20-21), trade (26-27) and the terms of trade (29-30). Growth fell off in 1968, as the expansion led by fixed investment and stockbuilding in 1966-67 gave way to a cautious adaptation to the new system. But stockbuilding remained high, and industrial employment grew rapidly despite the slowdown in output growth. The authorities responded with a squeeze on working capital credit for 1969, and inventory accumulation fell sharply, so that although final demand (consumption and fixed investment) held up, producers were forced to export, and the trade balance swung strongly into surplus. Nevertheless, industrial output growth slackened further while employment continued to expand, so output per man in industry stagnated.

1970 was a turning point. Led by enterprise spending out of their "decentralized" development funds and efforts to complete projects in the Third FYP, investment continued the growth which began in 1969 (when substantial increases in socialist sector outlays had been partly offset by a fall in private house building). Industrial output,

<sup>5</sup> Net material product distributed, or domestic utilization.

responded, all of the 8+ percent growth coming from productivity increase.<sup>6</sup> But with the disastrous harvest and the rise in investment, the balance of trade went significantly into deficit.

The signs of disequilibrium should have been apparent, but the planners waited: perhaps because they were making various rationalizing changes in the "economic regulators" at the beginning of the Fourth FYP, which might have been expected to reduce the pressure, and they were reluctant to intervene directly; perhaps because they were inexperienced in macroeconomic management, or the new system was not sending them the proper signals. By the time they did act in autumn 1971 (see below), considerable damage had been done to both the economy and the prospects for any further decentralization. After a 22 percent increase in accumulation in 1970, it rose a further 27 percent in 1971. Both inventories and the stock of unfinished investment rose sharply, and the trade deficit reached unprecedented proportions. Controls on incomes held up, but there was extra pressure of demand on consumer prices, whose rise over the year reached 2 percent for the first time.

The cutback of fixed investment in 1972-73 and the restoration of equilibrium are apparent in the data. But in 1973-74 it was politically necessary to raise real incomes more rapidly than before (see below); and in the second year both investment and stockbuilding<sup>7</sup> increased strongly. These pressures combined with a deterioration of 15 percent from 1973 to 1974 in Hungary's terms of trade with dollar markets, so the import surplus on these markets was immense. World price increases were also affecting the domestic price system, despite large budget subsidies. In 1975, CMEA prices began to reflect the world price changes, and the terms of trade in ruble clearing relations fell by 9 percent and in dollar clearing relations by a further 7½ percent. Thus with consecutive weak performances in agriculture in 1974-75, even the sharp reduction in stockbuilding and improvement in investment completions could not prevent further deterioration of the balance of trade, concentrated in 1975 on ruble clearing markets. The end of the Fourth FYP saw the economy in difficult circumstances. And it is evident that the major weakness in macroeconomic policy over the period was the inability to control (perhaps even to forecast) investment, not just in industry but throughout the economy.

Closer examination of individual areas reveals considerably more of the performance characteristics relevant to any assessment of the reforms. Tables 3 and 4 on GDP give a picture similar to that in Tables 1 and 2, except that the share of capital formation appears substantially higher in the GDP accounts; and in addition to the faster overall growth in the post-reform period, we see some of the desired shift towards services in 1971-74. Related to this is the rise in the share of trade (distributive services) in NMP produced, seen in Table 5. Not surprisingly, Table 6 shows that the growth of fixed capital stock accelerated in all sectors. And with capital stock in industry growing at 8 percent, the industrial labour force at only 1 percent, and

<sup>6</sup> Demonstrating that the poor performance of productivity in 1968-69 was partly the natural concomitant of a falloff in demand, partly the consequence of the centrally-decreed reduction in the work week from 43 to 44 hours, effected in 1968-69 (compare the output per man hour data in Table 16).

<sup>7</sup> This was said to be partly the result of enterprise hedging against foreign price increases.

value added in industry at 7 percent (Tables 14–15), it is clear that any reasonable weights would give a fairly healthy rate of growth of total factor productivity in industry (and some improvement over 1961–67). We have already discussed the wide fluctuations in investment around a strongly rising trend apparent in Table 7, and they seem to have been at least as pronounced as in the decade prior to the reforms. It is notable that the pattern of fluctuations was broadly similar across sectors, except the occasionally divergent movements of total and socialist sector investment suggest that the private sector (mainly private housebuilding) behaved somewhat differently. The relative importance of the stock of uncompleted investment (Table 8) is greatest in 1971–72 and 1974 and lowest at the end of each FYP, as expected, and again this measure shows some deterioration of performance after 1967.

The distribution of investment decision authority shown in Table 9 gives a much greater role to decentralized investment than the actual extent of independent enterprise decision-making would justify, because supplementary finance from the budget and banks for enterprise investment projects gives the authorities a considerable voice in these decisions. The cutback in the share of “large state investments” in 1970 and the shift of “group investments” to the enterprise sphere in 1971 were largely formal reclassifications associated with changes in the investment financing system. It may however be significant that state investment projects appear to have contributed less than proportionately to the overall stabilization of investment in 1972–73; despite the postponement of some large state projects, the main cutback seems to have been in the enterprise sphere. Conversely, the expansion of investment in 1974 appears to have been led by the enterprises.

The structure of investment in the socialist sector (Table 10) shows a clear shift away from industry to the communal sector, services and infrastructure. The share of agriculture also fell significantly after 1971. Within industry (Table 11), mining’s share fell sharply and metallurgy was also down, while building materials, chemicals, light industry and food processing all increased their shares in the total. This was little help to the hard-pressed building materials industry, which was unable to raise its growth rate (Table 12), falling way below a planned output increase of 55 percent in the Fourth FYP. But electronics and chemicals maintained rapid expansion, and transport equipment grew faster in the Fourth FYP (the public vehicles development programme), while mining and some of the traditional branches of engineering did relatively poorly—as planned. The composition of machinery investment (Table 13) shows some shift towards imported machinery in the Fourth FYP, but some of this may be due to price effects, and the increase in the share of machinery imported from non-socialist countries shows nothing like the dramatic shift which took place in Poland. The Hungarian growth strategy has not been based on very large-scale machinery imports from the West.

Table 14 shows that value added in industry grew faster than gross output from 1968 onwards, suggesting an improvement in efficiency (less intermediate use). The reverse characterizes agricultural production (Table 17), but labour continued to move out of agriculture

throughout the period (agricultural employment fell by 12 percent in 1971-75), and the age-sex structure of the labour force in the cooperatives has deteriorated somewhat further, so the performance of gross output is in fact rather good (up 18 percent from 1966-70 to 1971-75). Table 18 indicates the effort to improve incentives to agriculture by raising state procurement prices, which increased much faster than the CPI (Table 23), and indeed faster overall than the free market prices.

Table 19 reveals one of the key forces operating during the period. The rate of increase of money wages clearly rose after 1968, but "average wage control" was very effective, and not until 1973 did wages move up sharply. This reflected a centrally-decreed, all-round wage increase for manual workers in industry, a political response to the stagnation of real wages in 1971-72. In 1968-70, money wages rose 11.6 percent in state industry while the CPI rose 2.4 percent; in 1971-72, money wages rose 8.6 percent while the CPI rose 5.0 percent. Tables 20 and 21 tell a similar story about real incomes, while Table 22 shows that the relative income position of workers deteriorated further in 1971-73, following a long-established trend which reversed only in 1974-75, when further centrally-decreed wage increases were granted. All this must be seen in the context of higher expectations, of course. 1970 was a particularly good year for real incomes, and indeed all these tables show a significant rise in the rate of growth of real incomes, comparing 1968-75 with 1961-67.

Moreover, econometric work on the consumption goods market in Hungary suggests that households were able to spend their incomes and were not forced by excess demand to save more than they desired (Portes and Winter, 1977). Only 1974-75 appears to be a period of possible repressed inflation, which is of course highly plausible in view of the story above. The behaviour of consumer prices in Table 23 also testifies to considerable success in controlling open inflation (see the discussion in Wiles, 1974, and Portes, 1977a). The rate of increase clearly rose from 1972, but it was still hardly excessive: 2.9 percent p.a. in 1972-75 (3.3 percent on the retail price index—SE 75, p. 299) is not bad, nor indeed is 2.0 percent for 1968-75. In no year before 1976 was the planned increase in the CPI exceeded. There is nevertheless some degree of flexibility in the system, as suggested by the differential rates of price increase between commodity groups.

The authorities themselves change some of the consumer prices in the fixed price category from time to time, attempting to improve the price structure. They try to prepare the population carefully for any significant increases<sup>8</sup> and to compensate with money income changes for any serious distributional effects.<sup>9</sup> But it has been estimated that centrally decreed price changes added (net) a total of only 2 percent to the CPI from 1968 to the beginning of 1975; by 1974, the fixed prices (then covering 18 percent of retail turnover) were 8 percent up on 1968, while the free prices (then covering 28 percent of retail turnover) were up 20 percent.<sup>10</sup>

<sup>8</sup> With infinitely more care and political sensitivity—and correspondingly better results—than in Poland.

<sup>9</sup> These may have been quite important. The results of Muellbauer (1976) suggest that by 1970, the Hungarian consumer price structure was less egalitarian than that of the U.K.

<sup>10</sup> The prices subject to maxima (30% of turnover) behaved like fixed prices, while those subject to limits seem to have moved much more freely; see Marton, *Acta Oeconomica* 14 (1975), 399-413. Further evidence suggesting little or no repressed inflation is that for fresh produce, free market and state retail prices rose at the same rate (5½ percent p.a.) in 1968-75 (SE 75, p. 299), and there was no significant difference between the two price levels.

Producer prices also rose only slowly (Tables 24-25), until a far-reaching central price revision in 1975, followed by some further revisions in 1976 (see Hare, 1976a). Note again that the time path of prices differed considerably between industries even before 1975, suggesting some true flexibility; for example, there appears to be evidence of demand effects (investment pressure) for building materials in 1971-72 and engineering in 1972. Given the successful control of money wages and fairly rapid growth of productivity, it is reasonable to suppose that the main pressure on prices on the cost side came from foreign prices. Although the authorities revalued the foreign trade multipliers to follow the devaluation of the dollar from 1971 onwards (Table 32), they did not take account of the rate of inflation on foreign markets.

Thus the dollar value of the forint rose 45.3 percent from 1971 to 1 January 1976, but the overall price index of Hungary's imports from dollar clearing countries rose by 66.5 percent from 1971 to 1975 (KSE 75, p. 412). Similarly, the forint's value in transferable rubles rose 14.2 percent in 1976, but already by 1975, import prices from ruble clearing countries had risen by 32.2 percent from 1971. It is interesting to note that the difference in each case, about 20 percent, is precisely the overall price increase for socialist industry from 1971 to 1975 (Table 24). In 1973-74, however, the authorities attempted to insulate domestic prices completely, using import subsidies and export taxes.

We have already referred to the trade figures and terms of trade in Tables 26, 27, 29 and 30. It should be noted that except for 1971, the balance with advanced capitalist countries showed an encouraging underlying trend until 1974-75. Indeed, if we deflate exports to dollar-clearing countries by the relevant price indices (KSE 75, pp. 412, 415), we find that their volume grew at 9.7 percent p.a. 1961-67 and 12.3 percent p.a. 1968-75 (14.1 percent p.a. 1971-75). The corresponding figures for imports are 11.1 percent, 11.6 percent, and 11.2 percent respectively. This does suggest some improvement in the ability to sell outside CMEA, but the terms of trade effect dominates. Depending on what estimate we take of the share of trade in Hungarian national income, we could get a fairly wide range for the total terms of trade loss to the Hungarian economy from 1972 to 1975, but a central estimate must be around 6 percent of national income (15 percent of 40 percent, say). That is precisely the share of the import surplus in NMPD in 1975 (Table 2). We should note, however, that the terms of trade with non-socialist countries had in 1974 merely returned to the level of 1960; the intervening improvement had of course been gradual, but the drop took place over only two years, and then continued in 1975.

The commodity structure of trade with socialist countries shows remarkably little change over time, except the recent increase in the share of fuel in imports. With non-socialist countries, there is some increase in the share of machinery in exports, as desired, and a fall in the share of agricultural products, as well as an increase in the share of fuel in imports (Table 28). These data are of course affected by price changes.

The "Balance of Payments with GATT Countries" (Table 33) is of interest mainly because it is so difficult to get any such information

from Eastern European countries, but the country coverage reduces its usefulness. The figure for "investment income" may nevertheless be a good guide to the interest Hungary pays on her hard currency debt; a net debt of around \$2000 million in 1975 at 8%, say, gives precisely the figure in the table. But "other current payments" are rather obscure. Nevertheless, the current account balance is a fair reflection of turning points and orders of magnitude, and it does show how serious the position had become in 1975. The reserve figures in Table 34 are remarkable primarily for the steady rate at which they rose until 1976, almost regardless of the trade position (although the largest increase was in fact in the year of largest trade surplus). The overall debt picture is given by Tables 35 and 36, to which we shall return later. So far, Hungary has had no difficulty whatsoever in financing its hard currency current account deficits.

In my view, any overall judgment of the performance of the economic system as it actually operated in 1968-75, attempting to allow for the effects of the environment and of macroeconomic policy, must be positive.<sup>11</sup> The system itself did not during the period move in the originally desired directions; we discuss this below. But on balance, the economy coped rather well with the conflicting pressures on it, and the authorities have little reason to regret their decision, now over a decade ago, to introduce the new economic mechanism.

Those who had hoped that Hungary would become an example of the market socialism elaborated in the theoretical literature of the 1940s may be disappointed, and the long-run viability and efficacy of the existing system may be questioned. For 1968-75, however, in terms of the goals in II.3 above, performance has been good. And if one were to pose the question, how would the economy have performed had Hungary instead adapted its economic system in the direction followed by (say) the GDR, there is little doubt that the authorities' answer would and should favour the new system, insofar as any such counterfactual hypothesis can be evaluated.

The Party has maintained domestic political control, with some difficult periods, but considerable flexibility in recognizing and dealing with tensions related to the economy (see below). A striking recent example of their political sophistication and the degree of their popular support was their ability to implement without incident a 30% increase in the price of meat in summer 1976,<sup>12</sup> just after the Polish authorities had so dramatically failed in a similar effort. There have been no serious splits in the Party, although problems associated with the economic reforms have claimed some political victims. Externally, there have been no public manifestations of Soviet displeasure at any point. Although there is room for conjecture about the Soviet role in the decisions taken by the Central Committee in November 1972 and the personnel changes of March 1974,

<sup>11</sup> For a rather skeptical evaluation, see Granick (1973; 1975). I believe he gives insufficient weight to social and political constraints, to the independent role of macroeconomic forces, and to the economic problems which would be generated by moving significantly further towards a free market system in Hungary. I also dispute his evaluation of the actual performance data, but he was working with data going only through 1971.

<sup>12</sup> Indeed, they have effected a series of consumer price adjustments, mainly since 1973, without incident: They had initially been very cautious in this respect, recalling the strong public reaction against poorly handled consumer price increases in January 1966 (see Portes, 1972), and the consumer price changes on 1 January 1968 actually lowered the overall price level. But the recent price changes have been carefully prepared, with some money income compensation to those most seriously affected. The successful meat price increase in 1976 is the more remarkable since fresh produce prices were also soaring just at that time, because of the drought.

there is no firm evidence except Brezhnev's strong support for Kadar's policies in a visit to Budapest in December 1972.

There has been no sign of unemployment. Average wage control and the cut in the working week provided incentives to hire the unusually large number of new entrants to the labour force in 1968-69,<sup>13</sup> and enterprises making losses have not been allowed simply to fold up or discharge large numbers of workers. The problems here have been those of a tight labour market (as foreshadowed in Hamermesh and Portes, 1972). In particular, the planners themselves and some observers have found the level of labor turnover excessive. There has been considerable competition for labor, especially for skilled labor and in the Budapest area. On the other hand, the numbers do not seem high by international standards: total separations recorded annually, as a percentage of the labor force (socialist sector), peaked at just over 35% in 1969-70, as did those quitting to take other jobs, at about 22% of total employment.<sup>14</sup> These figures then fell to 32% and 16½% by 1973, and of course some of this must represent movement into more suitable jobs (the planners often appear to believe that all turnover is "wasteful").

Income and price controls have clearly been successful on the macroeconomic side. Whatever distortions average wage control may have imposed on the allocation of labor must be of secondary importance compared to its key role here. Since money wage increases did not exceed productivity growth, the main pressure on prices from costs has come through import price increases. These were neutralized with subsidies in 1973-74, but the planners then decided that real incomes would have to bear some of the economy's loss on the terms of trade (real consumption nevertheless grew slightly faster during 1968-75 than before, as originally intended). Thus the CPI rose 9% in 1975-76, having gone up only 13% over the previous seven years. This was probably sensible, given that it has proved politically feasible.

On the other hand, the reluctance to revalue the forint sufficiently to compensate for the overall rate of inflation abroad has resulted to a quite unnecessary extent in direct intervention with subsidies and export taxes, then producer price increases. The argument, said to have been put by the Ministry of Foreign Trade, that any further revaluation would harm the hard currency balance of trade, was surely wrong. As Wiles (1974) has said, the original decision to set the rate at 60 Ft/\$ in 1968 was even then a massive devaluation, contrary to the views of some Hungarian economists who wanted a still lower ("marginal") rate. The hard currency balance was duly improving until investment got out of control, and when investment was restrained, it immediately went back into surplus. Given the composition of hard currency imports, the price elasticity of demand cannot be large, and the main obstacle to expanding hard currency exports has been not price but rather quality, availability,<sup>15</sup> poor marketing, and quantitative restrictions applied by importers. Further devaluation

<sup>13</sup> Hiring a worker whose wage was below the enterprise average allowed raising the wages of those already employed without incurring tax liability.

<sup>14</sup> SE 72, p. 118, SE 74, p. 120.

<sup>15</sup> Many enterprises have regarded hard currency exports as a residual, to be considered, no matter how profitable, only after all demands from the home market and CMEA have been met. Some official statements did encourage this view, but policies have now changed, and the official line is now quite the opposite (see Sec. IV. 2).

was therefore unlikely to improve the balance of trade, but certain to exert strong inflationary pressure, given the high trade dependence. Finally, the supposed argument for letting the forint effectively depreciate with respect to hard currencies is an argument *against* letting it depreciate with respect to the ruble, yet as we saw, the effective devaluation (measured against import prices) has been about the same in both cases.

This important policy decision was therefore wrong, and it initially motivated a wide range of product- and enterprise-specific taxes and subsidies, then affected adversely both the price level and the price structure. It would have been impossible to insulate the economy from the terms of trade deterioration even under the old system (see Portes, 1977a), when foreign and domestic markets were formally separated by the "price equalization account"; but there was no reason why the new system, any more than the old, should suffer from any purely imported inflation. This is however what happened, and it is the more regrettable given the good record in controlling money incomes.

The main internal source of inflationary pressure was excess demand for investment goods. This is apparent in the prices of building materials and construction, and it was also one of the forces on the demand side of the labor market. It probably resulted in some generalized excess demand in inter-enterprise trade, but this is not clear (we commented above that there was no evidence of excess aggregate demand for consumer goods at the retail level, except perhaps in 1974-75). The main point, however, is that investment was poorly coordinated and regulated, completion times did not improve, and the balance of trade suffered. It is hard to judge whether the new system has been significantly worse than the old in this respect. One might however conjecture that the extent of decentralization of investment decisions makes little difference so long as neither ministries nor enterprises actually suffer any consequences from overinvesting, choosing bad projects, and not executing projects expeditiously. Despite the original hopes and intentions of the reforms, the central authorities were not properly restrained, and enterprises have been rescued financially when the profits they projected have not materialized (Timar, 1975, p. 101).

Achievements are difficult to judge on the important criteria of improving the match between the structures of supply and demand, efficiency, and innovation. The ability to dispense almost entirely with physical allocation controls is itself a strong positive sign,<sup>16</sup> as is the much better record on stock accumulation, and there is testimony that the availability of materials and spare parts improved somewhat.<sup>17</sup> The underlying trend in the balance of trade appears to have been favorable, if we try to allow for the macroeconomic disequilibrium (excessive investment) in 1970-71 and the terms of

<sup>16</sup> Oddly, however, the quarterly and annual "storming" or "plan cycles" which were associated with plan targets and allocation quotas seem to have persisted. They are apparent in the monthly data for construction completions and for the sales of socialist industry (SHK 1976/11, pp. 40, 23), and for the latter, although the pattern is strongest in export sales (where the plan cycles of CMEA partners might be partly at fault), it is also visible in all other categories of sales.

<sup>17</sup> On stock accumulation, see Table 2, and note that the value of stocks in state industry at current prices rose at 8.6% p.a. from end-1968 to end-1975, while gross value of output at constant prices rose at 6.0% p.a. and producer prices at 3.5% p.a. (Tables 14 and 24, SY 68, pp. 130-31, SE 75, p. 154). Thus stocks actually rose slower than output, in strong contrast to the period before 1968.

trade deterioration in 1974-75 (note that the economy did not begin to adjust to the latter, in the sense of transferring resources into the balance of trade, until late 1975). The planners believe that the industrial structure is moving in the right directions at the aggregative level of industrial branches, and that the rate of introduction of new products has increased. There has however been much criticism of lags in introducing new processes and in discontinuing production of obsolescent goods (see below). Much of the clearly identifiable modernization has come through the "central development programs" in key sectors, and there has been little or no progress towards more competition on the domestic market and the enterprise initiative which it was supposed to foster. Industrial cooperation agreements with Western firms have been a progressive influence, but while numerous they have mostly been very small-scale. The lack of competitive pressures has meant that the enterprises are less interested in them than are the central authorities, who see them as vehicles of technology transfer, the more important because balance of payments constraints preclude large-scale imports of Western machinery (see Marer, 1976, Hewett, 1975, and Radice, 1975).

### 3. *The Development of the System: Policy Changes*

Thus the economy not only expanded dynamically in 1968-75 (and quality-corrected indexes would probably show an even better record), but the authorities also had reason to be satisfied on most of their main desiderata, although there was obviously considerable scope for further improvement. They made one major macroeconomic policy error during the period (the exchange rate), they lost control of investment in 1970-71, and the economy suffered a severe terms of trade deterioration. These were not, however, sufficient reasons for stopping the further development of the reforms as originally projected, as they clearly did from November 1972 onwards. Indeed, the major foreign price changes came after the key decision, and investment had already been successfully stabilized before it. The fundamental issue determining policy has rather been income distribution and the discontents of the urban, blue-collar working class. It was decided not to go any further in removing the "brakes"—instead, to tighten them somewhat—because developments in incomes had generated serious tensions among workers, and any loosening of the brakes would have both exacerbated this problem and compounded it with employment insecurity. Writing in early 1972, both Wiles and I stressed this set of issues (Portes, 1973, pp. 383-386, and Wiles, 1974), but we did not forecast how quickly they would become the dominant considerations, nor how far-reaching would be their inhibiting effects on the reforms. But as Wiles put it, the basic problem was that "the reform . . . left out the proletariat (p. 140)." The Central Committee plenum of November 1972 was forced to remedy this omission.<sup>18</sup>

The sequence of events is important in any interpretation. Up to 1971, there was little change in the system. An egregious mistake in the enterprise incentive system, which had given managers profit-

<sup>18</sup> As we see below, the problem was and still is not only the situation of manual workers relative to other groups, but also distributional tensions *within* the "proletariat", indeed within other socioeconomic groups (e.g. managers, peasants) as well.

related bonuses ten to twenty times greater than those of manual workers (with the size of total distributions varying inversely with the workers' average wage), created great resentment and was corrected at the end of 1969. Otherwise, some of the brakes were progressively removed—in particular, the export subsidy system became more uniform and average wage control was refined as part of a set of changes in the economic regulators introduced with the Fourth FYP (see Gado, 1972). As late as May 1971, Prime Minister Jenő Fock was willing to argue at a Trade Union Congress for “allowing the reform to work better and more effectively”, and to say that “the brakes . . . must be released.”<sup>19</sup>

By October 1971, however, Fock was stressing the role of the “central control bodies”, calling attitudes like those he had expressed five months before “well-intentioned impatience [which] often fails to take account of the situation as it really is.”<sup>20</sup> The actions taken at that time, however, were limited almost entirely to restoring balance on the investment goods market and in foreign trade. An authoritative commentary on Fock's October speech stressed that he was not announcing any changes in economic policy or the economic system, that there would be “no decrease in independence”, only recognition of necessary delays in the program of developing the reforms, and that the object of the exercise was merely to restore equilibrium (which should not be seen as an “investment freeze”).<sup>21</sup>

There had however been a campaign in the press from autumn 1970 onwards against various “abuses” of the freedoms allowed by the new system. Moonlighting, real estate speculation, country houses at Balaton, high earnings of private artisans and of agricultural cooperatives allowed to expand into industrial production,<sup>22</sup> “profiteering”, “moneygrubbing”, and “materialism”—all offended the sensibilities of the working class and their representatives. Action against these peripheral but highly visible phenomena was feasible with little cost to the principles of the reforms. Thus in the second half of 1971, moonlighting and the ancillary activities of the agricultural cooperatives were restricted, new limits on real estate ownership and new taxes on land transactions and private rentals were imposed, and taxation of private artisans and traders became more progressive. At that time, however, it was clear that the authorities were “reluctant to respond to the complaints in ways which they feel might contradict the spirit of the reforms. They firmly believe that incentives and wider differentials are compatible with socialism, indeed necessary for their model to function more effectively . . . They have belatedly recognized, however, that political support for the reforms requires a substantial share of the goods to be seen to go to the working class, and that profits become more identified with social benefit . . . One may nevertheless doubt whether [the 1971 measures] will allow more than a temporary respite (Portes, 1973, p. 386).” In the event, “temporary” meant only a year.

At the Trade Union Congress to which Fock had advocated relaxing the brakes, there were clear pressures from the delegates for all-

<sup>19</sup> Nepszava 8 May 1971.

<sup>20</sup> Nepszabadsag 23 October 1971.

<sup>21</sup> I. Foldes, in Nepszabadsag 26 October 1971.

<sup>22</sup> The large state enterprises' inflexibility and lack of competitiveness or attention to market needs allowed great scope for profitable activities to the private and cooperative sectors.

round wage increases. We cited above data on real wages showing the sharp deceleration in 1971-72 in state industry—the contrast with the previous few years, especially 1970, was too abrupt, and was already perceived in spring 1971; the position steadily grew worse and in commenting on the decisions of the November 1972 plenum, a *Nepszabadsag* editorial actually claimed that real wages in industry had declined since 1970.<sup>23</sup> Whether or not it accords with the data, this was undoubtedly what the workers felt (the “perverse money illusion”). Another major source of discontent was inter-enterprise earnings differentials. The more profitable enterprises really were able to pay more, yet the obvious distortions in the price system and tremendous volume of subsidies (which came to 54.5% of total enterprise profits in state industry in 1972),<sup>24</sup> highly differentiated between enterprises, made this dependence of earnings on “profitability” appear unjustified to those who were not doing well out of it. And for the most part, these were the most sensitive group politically, the workers at the largest state industrial enterprises, which were also in general the least “profitable”.<sup>25</sup> The problems of these large firms and their workers were stressed in the press throughout 1971-72.<sup>26</sup> And there were other distributional tensions, all to the disadvantage of manual workers in the state sector: the peasants, the self-employed, and workers in cooperatives<sup>27</sup> were all doing relatively well.<sup>28</sup>

Finally, all discussion of “removing the brakes”, “eliminating unprofitable production”, and “restructuring” was understood by workers in unprofitable plants or enterprises as a scarcely veiled threat to their jobs. Fock had said in May 1971 and reiterated in October 1971 that subsidies to weak firms producing outdated goods should be reduced, that perhaps some of them would have to be closed down, that ministries should help to “regroup” labour, and that the Party and government would have to deal with the political consequences. In the budget speech in December 1971, the Minister of Finance discussed cutting down unprofitable production, and *Nepszabadsag*'s economic commentator dealt with the topic at length at the end of the year, saying that the reforms had revealed what production should be discontinued, and that the Council of Ministers had prepared measures to deal with the problem.<sup>29</sup> He returned to the topic in August 1972 with a distinctly more interventionist tone, but another writer stressed several weeks later how difficult it was politically to “rationalize” in large firms because of the fear of unemployment.<sup>30</sup>

Meanwhile, Nyers appears to have been taking a different line, praising the results of the reforms and arguing that, in consonance

<sup>23</sup> *Nepszabadsag* 17 November 1972.

<sup>24</sup> *SE* 72, p. 186. These included export subsidies, price subsidies for domestic sales, and direct lump-sum production subsidies to unprofitable enterprises.

<sup>25</sup> Thus Sandor Gaspar, TUC General Secretary and Politburo member, while still arguing for wage differentiation in *Nepszabadsag* 24 April 1971, criticized in his speech to the Congress the “exaggerated” dependence of wages on profits (*Nepszabadsag* 5 May 1971).

<sup>26</sup> See for example the article by L. Rozsa in *Nepszabadsag* 29 October 1972.

<sup>27</sup> Especially in construction, where the average wage in state enterprises rose 19.6 percent from 1967 to 1971, while the average wage in cooperative enterprises rose 35.1 percent (*SE* 72, p. 115).

<sup>28</sup> On these distributional problems, see Timar (1975, pp. 154-163). A detailed and overwhelmingly convincing statistical picture of the extent to which the relative position of manual workers had deteriorated from 1967 to 1972 is given in *A családi jövedelmek színvonala és szerodása 1972-ben* (The level and dispersion of family incomes in 1972), Budapest, CSO, 1975 (see especially the summary tables on pp. 25-28).

<sup>29</sup> *Nepszabadsag* 21 December and 31 December 1971.

<sup>30</sup> I. Foldes, *Nepszabadsag* 27 August 1972, and E. Soter, *Nepszabadsag* 6 October 1972.

with its principles, *the enterprises* should be responsible for eliminating unprofitable production.<sup>31</sup> He was doubtless expressing his view of the conclusions of a group of committees set up in autumn 1971 to evaluate the reforms, which had prepared their critique (the first phase) by spring 1972 and were to propose recommendations by autumn 1972. The critique appears to have been summarized by Bela Csikos-Nagy (Director of the National Materials and Price Office) in an article which appeared in September.<sup>32</sup> His line (and we do not know how far it represented the committees' conclusion) was that the "economic reforms' guiding principles have not been implemented consistently", i.e., he argued even at that stage for releasing the brakes: increasing market pressure by removing some price controls, subsidies, tariffs, and taxes, and using tighter monetary regulation to control investment. His major concessions were to the special problems faced by some large firms and the need to devote more financial resources to central wage policy.

Yet in the event, the latter were the main measures taken by the November 1972 plenum. The committees' reports were not published. Nyers and his allies had lost the argument, and Kadar came down decisively for the workers, as he saw it. In his speech to the plenum, he stressed the relative drop in the position of industrial workers, argued that equality had to take precedence over efficiency, and criticized petit-bourgeois excesses.<sup>33</sup> The plenum scheduled for March 1973 an 8% increase in money wages for manual workers in state industry, to be met out of central funds; it decided that the ministries should put under continuous special consideration and review the problems of the fifty largest industrial enterprises, specifying however that for all but eight to ten, "economic means" (i.e. indirect "regulators") should be sufficient to deal with their difficulties (these special cases—in the event, only six—would require direct central intervention to effect "restructuring"); and it increased the powers of the planning and price control bodies.

The general policies of the 1968 reforms were however reaffirmed. There followed in early 1973 a new decree on "unjustified profits", which was in effect a tightening of the price control regulations, and new measures for closer regulation of enterprise investment. The Central Committee plenum in June 1973 set up a new inter-ministerial State Planning Committee, and the National Planning Office became its "working arm" (which seems to have brought a more operative role for the NPO, especially in regard to investment). And by November 1973, a Central Committee plenum could establish that the resolutions of the previous November were being properly implemented, and the political situation was much calmer.<sup>34</sup> A political commentator wrote that the November 1972 plenum had "reestablished the dialectical equilibrium between economics and politics", but he stressed that "the effects of the [1968] reforms have been basically positive", and problems would be solved on this basis, "not by a return to the old system."<sup>35</sup>

<sup>31</sup> Nepszabadsag 6 February 1972 and 30 April 1972.

<sup>32</sup> Kozgazdasagi Szemle, September 1972.

<sup>33</sup> Tarsadalmi Szemle, December 1972.

<sup>34</sup> Nepszabadsag 30 November 1973.

<sup>35</sup> I. Fozsgay, Tarsadalmi Szemle, November 1973.

There has been little further recentralization since 1973, and this is itself remarkable in view of the extremely unfavorable impact from the foreign sector in 1974-75. So, I believe, is the relative restraint of the measures taken in 1972-73. The fundamental success of the reforms is demonstrated by their resistance to a powerful set of forces, any of which alone might have brought back central physical allocation, obligatory plan targets and incentives based on them, and all else associated with the "standard system" of command planning (as refined, perhaps, by the GDR). If Kadar judged the measures of 1972-73 to be politically essential, one's inclination must be to ask who else could possibly be a better judge.

Certain aspects of the story are still not clear. There had been no personnel changes in November 1972, yet 16 months later, *after* political equilibrium had been restored, Rezső Nyers was replaced as the Party's chief economic official (after eleven years in that post) by Károly Németh. Pragmatic and able, not strongly "conservative", Németh had doubtless been on the winning side in November 1972, but he did not have Nyers's economic background. A year later, at the Party Congress in March 1975, Nyers lost his seat in the Politburo as well. Then in May 1975, Jenő Fock was replaced as Prime Minister, and in July 1975 Deputy Prime Minister Matyas Timar moved over to become President of the National Bank; both had held their posts since April 1967. Thus the three men who had been most closely associated with the economic reforms from the outset were no longer in positions of power. There is no clear evidence that economic problems motivated these changes, or even political difficulties on the scale of autumn 1972, although the tone of a report on the "situation of the working class" at the March 1974 plenum suggested some continuing worker discontent with the economic mechanism. Perhaps the old team simply were getting tired or stale; more plausibly, the balance at the top of the Party may have shifted just enough to require some visible sacrifices by Kadar of those most closely identified with the original conception of the reforms. But there were no observable major economic policy changes after November 1972 which can be associated with these personnel changes.<sup>36</sup>

An alternative explanation might be external pressures. Kadar had in November 1972 warned against any "conceit" in comparing Hungary's economic system with those of other CMEA countries; the State Planning Committee set up in June 1973 appeared to be a direct copy of its Soviet counterpart; and the leader of 23 March 1974 in *Nepszabadság* by its new editor (for many years the Central Committee secretary responsible for international affairs) suggested that Hungary had much to learn from the other socialist countries. This article evaluated the economic mechanism favorably, but criticized "practical work", in particular "delays" in recognizing serious problems and dealing with them. All this is weak evidence for concluding either that the majority in the leadership were unhappy about progress in the economy after November 1972 (against the testimony both from the press and the data indicating improvements in 1973), or that the fraternal socialist countries demanded the removal of

<sup>36</sup> A few import quotas introduced at the beginning of 1975 in response to the balance of trade problem indicate some inclination to use more direct intervention, given the increased pressure on the economy, but hardly a policy change (*Nepszabadság* 3 March 1975).

Nyers. Kadar would certainly react if the Soviet Union had reason to be concerned about internal political developments in Hungary, but whereas this was clearly the case in autumn 1972, there were no such strong signs in 1974-75.

The overall lesson of the story is that while economic problems motivated the Hungarian economic reforms, political forces severely constrain their scope and development. The decision not to release the brakes any further, but rather to recentralize somewhat, was not primarily due to pressure on the economy, either from excess demand generated by overinvestment or unrealistically high growth targets, or from the unfavourable world market developments in 1974-75 (although the pressures of adjustment to the latter would probably be sufficient to preclude any significant decentralization in 1976-80).

Rather, the decision expressed clear priorities for the goals of a politically acceptable income distribution and a minimum rate of increase of living standards for all major groups in the population, with special concern for industrial manual workers. To view the distributional problem as a simple conflict between incentives and efficiency on the one hand and egalitarianism on the other would be mistaken, however. The income differentiation which was taking place was not differentiation according to work, and this was too apparent to all concerned; and the corrective measures had little to do with incentives. The authorities are quite willing to encourage motivation by self-interest, but they have not yet been able to translate this into an effective and socially acceptable incentive system, partly because of the deficiencies of the price system.

The full employment goal also played an important role, but I cannot accept the argument of Granick (1975) that this requires a sellers' market, which is in turn the fundamental barrier to greater microeconomic efficiency (on the latter point, he follows Kornai, 1971 and 1972). First, the authorities have not accepted the extreme version of absolute job security; they have intervened directly to restructure enterprises in difficulty (including six of the largest firms in the economy), and this has involved substantial transferring of workers. They were not willing simply to let these enterprises go bankrupt and allow the market to reallocate, and I find their response not only politically but also economically sensible. There has of course been extensive protection of high-cost enterprises with subsidies, tariffs, etc., and this has impaired the usefulness of profits as an incentive and a channel for allocation of investment funds. But the correct response here would be to try to rationalize the subsidy structure, while giving direct "adjustment assistance" to enterprises which need it—not to create excess supply by deflation.<sup>37</sup>

Enterprises do not in general feel any strong effects of competition, but this is due to the high industrial concentration and lack of competition from imports (undervalued exchange rate and some direct restrictions). Finally, I do not agree that there has been substantial excess demand on all markets throughout the reform period. There undoubtedly was for investment goods in 1970-71, perhaps again in 1974-75, and for consumption goods in 1974-75; but conversely, there

<sup>37</sup> Nor can they simply let enterprises discontinue all "unprofitable" production, given that many such goods may actually be quite essential and costly to import.

were signs of excess supply in 1969 and again in some areas in 1976.

The stress on income distribution, living standards, and employment has however clearly been to the detriment of the price structure, incentives, innovation, and the balance of trade. We consider in Section IV what we can expect during the current Fifth FYP in this light.

#### IV. PROSPECTS, 1976-1980

##### 1. *Changes in the Environment*

The clearest change in the circumstances facing the Hungarian economy from the Fourth FYP to the Fifth is the substantial amount of hard currency debt accumulated during the Fourth FYP period (Table 35). The net debt was only a few hundred million dollars at the beginning of 1971, but by the end of 1975, we estimate it was slightly over \$2,000 m. (Table 35). This nets out \$840 m. of deposits with Western banks, which are used partly as transactions balances; they are presumably included in the reserve figure in Table 34, which suggests Hungary was holding almost as much again in gold and securities. Of the \$2870 m. gross, \$170 m. were Western government-guaranteed export credits, \$380 m. medium- and long-term Eurocurrency loans, \$216 m. bonds, and the remaining \$2,100 m. were short-term debts in the Euromarket. In 1976, Hungary's gross liabilities in the Euromarket were increasing at \$250 m. per quarter during the first three quarters.

Interest payments alone on the net debt must currently be running at over \$200 m. p.a., close to 15 percent of hard currency exports. The short-term debt is rolled over; scheduled repayments of principal on the longer-term Euromarket debt are bunched in 1979-81, \$200 m. in each of the first two years and \$300 m. in the third. If the hard currency current balance is in equilibrium by then, and conditions in international capital markets are favorable, refinancing should not be too difficult. But if the trade deficit persists, with a continuously increasing debt, refinancing might pose problems. It is however quite unlikely that Hungary could by the end of the FYP be running a hard currency trade surplus sufficient to meet interest payments and pay off principal falling due (for a comprehensive discussion of East European debt problems, see Portes, 1977b).

The existing debt carries a substantial burden of interest payments and would appear to require a rapid shift into a hard currency trade surplus, to be maintained for some time. Moreover, terms of trade with the West, demand on Western markets, and the future availability of Western loans have all become more difficult to forecast, and this too would motivate a conservative policy. Terms of trade in CMEA are easier to predict, given that prices now follow world prices on a five-year moving average, and for Hungary, changes over the next few years will be unfavorable, as the oil price increase works through.<sup>38</sup> Centripetal forces within CMEA will be strong, as the smaller countries are forced to restrict their imports from outside the bloc and become even more dependent on the USSR for raw material supplies.

Internally, a significant favorable development is the discovery of fairly large copper reserves. Although they are rather deep, the

<sup>38</sup> Thus the price Hungary pays for Soviet oil rose 23 percent on 1st January 1977.

planners are hoping for output of 100,000 tons by 1980, which would be a great help to the balance of trade. The main resource constraints are the labour supply, which is expected to remain constant throughout this FYP, and a capital stock deficiency resulting from long neglect of investment in infrastructure.

It is not clear how much the planners have learned about macro-economic management in a decentralized system from their errors in 1969, 1971, and 1974. It may be that the environment in which they operate does not allow them a sufficient range of policy instruments. This was from the outset a potential danger, given that neither income tax nor commodity taxation could be used to adjust the balance of aggregate demand and supply. Thus to deflate, they have tended to use direct controls on the volume of credit, which in the first instance hit inter-enterprise demand. The credit squeeze which began in the second half of 1975 and extended into 1976 seems to have done just that, and although it had the desired effect on the balance of trade, output growth fell sharply.

Finally, an important change in the circumstances facing the planners is the greater expectations created by the faster growth of real incomes and consumption in recent years. The shift was by no means as dramatic as the contrast in Poland between 1971-75 and the previous period, but it was certainly perceptible, and it limits the planners' room for maneuver.

## *2. Priorities and Policies*

As seen at the beginning of the Fifth FYP, the relative emphasis on various goals had changed somewhat over the preceding eight years. Stability of the income distribution and improvement of the hard currency balance of trade had gained in importance, while the rate of inflation had lost, as the population and the planners had managed to cope with 2 to 4 percent *p.a.* over the 1971-75 FYP. Efficiency in the sense of shaking out the production structure has been supplanted to some extent by efficiency in the old sense of "mobilizing reserves". Here the "reserves" lie in the internal organization and management structure for key decisions, the coordination of the productive process, and economy in energy and raw material use.

The FYP itself reflects increased uncertainty about world market developments, insofar as it is more detailed and concrete in specifying the progress of the economy up to mid-1977 than from then until 1980. The usual aggregative goals are set for the whole period, as seen in Table 37; but investment plans are much less elaborate than has been customary in the past. No new "central development programs" are proposed; rather, the Plan stresses proper completion of those currently under way (aluminum, petrochemicals, public vehicles, computerization, natural gas, industrialized building techniques). The planned rate of growth of investment is below that of 1971-75, but above that of consumption, so the share of accumulation will rise. Within this, infrastructure will be stressed, and housing will receive special priority.

The macroeconomic targets are generally somewhat more modest than actual achievements in 1971-75, and they show clearly the planners' intentions to adjust during the period to the deterioration

of the terms of trade. We recall that as of 1975, there had been very little adjustment, and the economy was running an import surplus of roughly the same magnitude as its loss on the terms of trade in 1974-75.<sup>39</sup> The planners anticipated an 8 percent improvement from 1976 to 1980 in the terms of trade on dollar markets (as well as a revival of demand) from 1975, but CMEA prices will be moving through 1978-79 towards those prevailing in the West in 1973-74. Consequently, they project that adjustment will require that NMP distributed domestically should grow about 1.2 percent p.a. slower than NMP produced, and the growth rates of personal consumption and per capita real incomes should fall by about 1 percent from those of 1971-75 (the share of consumption in NMPD is to fall from 75.6 percent in 1971-75 to 74 percent in 1976-80).

This strategy raises two questions: will it be possible to effect the required shift in foreign trade, to restrain imports and expand exports sufficiently to meet the hypothesized transfer of resources into the foreign sector? And if so, will the resulting decline in the rate of increase of living standards bring it below the minimum politically supportable rate? Discussion of the foreign trade plans seems to take as given the Hungarian economy's high elasticity of demand for imports with respect to domestic output,<sup>40</sup> and policy shows a much stronger, more conscious export-orientation than before. To avoid excessive stress in public on the geographical orientation of Hungary's exports, the planners speak in terms of expanding production of "convertible goods," i.e. those which can be sold on any market, rather than emphasizing the difference in the quality standards of hard currency and CMEA markets.

The fact remains that the planners are trying to move away from treating hard currency exports as a residual, and they say they are switching from restriction of hard currency imports (which they tried in 1972 and 1975), which is very difficult in view of their composition (Table 28), to a dynamic expansion of exports to the West. The plan projects an increase in exports to dollar-clearing markets of 60 percent (in volume, i.e., at constant prices) over the five years, a rate of 9.9 percent p.a. This seems ambitious, but the corresponding figure for 1971-75 was in fact 10.1 percent p.a. The more ambitious target is actually the restriction of the growth of imports from dollar-clearing markets to only 40 percent (again, in volume) over the period, i.e., 7.0 percent p.a., as against the 8.3 percent p.a. recorded in 1971-75.

Whether the real income increases projected in the Plan will be sufficient to maintain political equilibrium is a question which an outside observer must hesitate to answer. The population are conscious of the advantages which political stability and the general orientation of economic policy have brought in recent years, and they know that developments in the world economy have been unfavorable to Hungary. But they will also have observed the exercise of power by the workers in Poland in regard to policy on consumption. They will

<sup>39</sup> It might be argued that Hungary, like all other non-OPEC countries, should expect to carry indefinitely some part of the collective deficit corresponding to OPEC's surplus (for this purpose, include the USSR with OPEC). The planners do not see it that way: CMEA practices do not include provisions for long-term trade deficits, i.e. regularized long-term lending; and at least publicly, Hungary maintains that it wishes progressively to repay its hard currency debts, rather than to accumulate more in the longer run.

<sup>40</sup> During 1971-75, NMP at constant prices grew at 6.2 percent p.a. while imports at constant prices grew at 14.8 percent p.a.—thus the elasticity of the text was 2.4.

have to give their leaders the benefit of the doubt, reasoning much more explicitly than in the past that they are getting the most that is feasible in the circumstances.

### 3. *The Economic System*

The economic system as it now operates and as it can be foreseen to the end of the decade is, in its essentials, very similar to that originally introduced in 1968. This was not, of course, the reformers' intention, but we have seen how events have frustrated the conception of a decade ago that the brakes could progressively be released, so that the economy would increasingly be regulated by market forces. As a leading strategist among the reformers has recently said, in the medium run there is "hardly a possibility of further decentralization."<sup>41</sup>

There has in principle been some loss of enterprise independence, some increase in the "tutelage" exercised by branch ministries and in the control over investment by the NPO. This is not based on obligatory plan targets, and it is not clear how much difference it will make in practice. The price structure is not likely to be significantly less flexible than in 1968-75, but the existing scope of free price determination will not widen. There will be further attempts, led from the center, to bring consumer and producer price structures closer together and closer to costs. Nevertheless, the informational content of prices is unlikely to improve significantly.

The main areas of more direct intervention and control by the authorities will be in investment and the labor market. Some shift from enterprise-financed to central-financed investment has been effected<sup>42</sup> by reducing total enterprise profits (in the 1975-76 price revisions) and by raising the average rate of profits taxation (the marginal rate has however been reduced, with the objective of increasing incentives). The previous restriction on the allocation of profits between the development and sharing funds has been removed, but increases in profit distribution to workers continue to be heavily taxed, so it is unclear what the effect of this will be.<sup>43</sup> A substantial part of bank credits for investment has been set aside for a special competition between enterprises, which are to propose projects generating "convertible exports".

In the labor market, inter-enterprise wage differentials should be reduced by a revision of the basic wage tariff structure which raises the lower limits for each job category.<sup>44</sup> The ratio of administrative employees to manual workers in socialist industry had been rising steadily, from 9.5 percent in 1965 to 12.7 percent in 1976 (SE 75, p. 141), and despairing of indirect measures, the authorities imposed a ban on hiring for all administrative posts from the beginning of 1976. This has been relaxed from the beginning of 1977 to allow replacement of workers who leave, but no expansion in the number of posts; it is

<sup>41</sup> J. Bognar, Valosag, February 1977.

<sup>42</sup> The share of state investment is expected to rise from about 45 percent in the Fourth FYP (Table 9) to somewhat over 50 percent in the Fifth FYP.

<sup>43</sup> "Average wage control" will in some areas be replaced by other forms of regulation of wages; but there is no reason to believe that these will give any less central control over money incomes and wage cost inflationary pressures.

<sup>44</sup> Magyar Hirlap 15 December 1976, Nepszava 14-15 January 1977.

nevertheless an example of the willingness to use direct controls when necessary. A similar example, with considerable political and economic justification, is a set of new measures providing for the "redirection" of labor "released" from their jobs—i.e., made redundant. In our view, the authorities are serious about restructuring and the elimination of high-cost production, but they recognize that this will have to be implemented by direct central intervention.<sup>45</sup>

Managerial incentives, like wages, will be less directly tied to enterprise profits. The intention is to encourage longer-run horizons for managers, by evaluating their performance on the basis of an assessment of the overall development of the enterprise by the ministry. This of course carries the potential for serious restriction of enterprise independence, but it is too early to say how the evaluation will be implemented in practice. The converse, however, is that there will be less pressure for subsidies to keep up profits and thereby protect the incomes of managers and workers.

Overall, the main weaknesses of the system are the poor informational content of prices, for both investment and foreign trade decisions, and the absence of internally generated innovation. Despite sticky prices, short-run allocation is basically market-determined, with some degree of informal rationing by producers<sup>46</sup> and central restrictions on purchases and inventories of certain materials, but we see little prospect of any significant extension of central allocation. At present, the commodity allocation system is slightly less restrictive than it was in 1968. But the problems of creating an efficient, flexible, and dynamic "capital market" in a system of state ownership have not been solved. They are of course related to equally fundamental problems in the incentive structure and price system, and we foresee little progress here in the medium term. Nor can Hungary try to solve the innovation problem with the Polish strategy of 1972-75, importing vast quantities of Western equipment and technology, because of the balance of payments constraint and already substantial volume of hard currency debt. The planners have stressed "industrial cooperation agreements" with Western firms to try to get around the balance of payments constraint, but domestic enterprises have not taken the initiative here (again, incentive problems), and the large number of such agreements overstates their significance to the economy.

Thus the Hungarian "new economic mechanism" is now firmly established, despite strong pressures which might have been expected to push the economic system back into the form which other CMEA countries have maintained. Seven years ago, I concluded an evaluation of the reforms by saying, "There is little prospect of recentralization (Portes, 1970, p. 313)." There has been a limited extension of central intervention, but the reader may judge whether this may in good part have been a natural consequence (as in other economies) of strong forces in the international economy to which Hungary, because of its high foreign trade dependence, is especially vulnerable. I do think that a similar conclusion is justified at the present time.

<sup>45</sup> It is intended that 362 plants should be closed in 1976-80, of which the majority will be small, inefficient engineering plants (T. Nemeslaki, Minister for Metallurgy and Engineering—and former Deputy General Secretary of the Trade Union Council—in Magyar Hírlap, 10 October 1976).

<sup>46</sup> Both this and price control are easier, the smaller the number of enterprises, and there is no reason to expect any significant deconcentration.

Subject to obvious qualifications regarding the political environment—and we cannot ignore that both Brezhnev and Kadar (not to mention Tito) are likely to retire from the political scene by 1980—the Hungarian economic system will continue to be the pragmatic, somewhat inconsistent mix of market and administrative allocation which has been maintained since 1968.

#### 4. *Conclusions*

I should hesitate to draw from the Hungarian experience any lessons or generalizations to be extended to other East European countries. The 1968 reforms were unique in conception and implementation, and even now no other country is likely to follow the Hungarian example. A brief summary of the most important points to emerge from the analysis above may be useful, however.

(a) The performance of the economy has improved under the new system, despite the exhaustion of labor reserves, serious adverse changes on external markets (both CMEA and non-CMEA), a major macroeconomic policy error (the exchange rate), and continuing inability to control investment. It seems doubtful that the old command system, however rationalized, could have performed as well in the circumstances.

(b) Further development of the system in line with the original conception was halted in 1972 primarily because of distributional tensions and the deterioration of the position of industrial blue collar workers, for which the reforms appeared to be responsible. The pressures of excessive investment in 1970–71 and deterioration of the terms of trade in 1974–75, as well as resistance to market-oriented decentralization in CMEA, were contributory factors, but not decisive. The distributional problem was not a matter of efficiency versus egalitarianism, however, and a more consistent development of the price and incentive systems, coupled with more sensitive central intervention in reorganizing the structure of production, might have avoided the tensions which led to the November 1972 plenum. Whether the model towards which the reforms were originally directed could have been viable in the external environment, as it developed, does in any case seem questionable. But it was not killed by excess demand.

(c) The political constraints on the economic system seem to have been primarily domestic, rather than imposed from abroad. Conversely, economic decentralization has not entailed any significant political decentralization or loss of authority for the Party. Although overt political and social control has become much less restrictive, there has been no development of pluralism in political life. The population has accepted this situation, and the tensions visible elsewhere in Eastern Europe have not been manifested in Hungary. It is difficult to judge how much this may be due to rising living standards, a less bureaucratic atmosphere in economic life, the bitter experience of 1956, Kadar's political acumen, or Hungarian pragmatism and sophistication.

(d) The main feature of the current FYP is not any systemic change; but rather the attempt to adjust to external pressures on the economy: a hard currency trade deficit, exacerbated by a substantial volume of hard currency debt; and falling terms of trade in CMEA, exacer-

bated by commitments to invest in raw material extraction in other CMEA countries. These pressures are to be met by expanding exports rather than restricting imports, i.e. continuing to increase foreign trade dependence, while somewhat increasing the share of trade with hard currency markets. The outstanding questions are whether exports can in fact be increased as rapidly as planned, and how the population will react to the necessary fall in the rate of growth of consumption. The authorities seem to realize there may be advantages, especially in these adverse circumstances, to maintaining systemic stability. But even on optimistic hypotheses, the pressure on the Hungarian economy in the foreseeable future will be severe, and the uncertainties surrounding any predictions about the system, and especially its foreign economic relations, are correspondingly great.

TABLE 1.—SOURCES AND USES OF NMP PRODUCED

[Annual growth rates at constant prices of 1968]

	Sources			Uses		
	NMP	Industry	Agriculture	Personal consumption	Net accumulation	Net accumulation of fixed assets
1961.....	5.0	11:0	-6.0	1.0	2.0	-8.0 <sup>1</sup>
1962.....	5.7	8.1	5.3	4.0	8.8	8.7
1963.....	5.4	5.0	5.1	4:8	14.4	24.0
1964.....	4.3	7.1	2.9	5.5	7.9	2.4
1965.....	0	4.4	-9.3	9	-12.4	1.6
1966.....	8.2	9.4	10.1	5.0	11.6	-4.5
1967.....	8.1	8.8	5	6.5	32.2	30.2
1968.....	5.0	5.9	-6	4.5	-1.8	-2.7
1969.....	8.0	4.5	12.3	5.8	-2.2	12.4
1970.....	4.9	8.1	-18:1	8.0	22.0	45:2
1971.....	6.5	5.7	8.7	5.6	27.0	2.4
1972.....	5.1	7.2	3.4	3.5	-21.7	7.6
1973.....	7.4	8.5	7.9	4.9	-1.9	4.9
1974.....	6.9	9.1	-1.6	6.9	31.4	-5.8
1975.....	5.4	6.2	-2:3	4:2	2.3	35.9
1976.....	3.0	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
1961-65.....	4.1 <sup>1</sup>	7.1	-6	3.2	3.7	5.5
1966-70.....	6.9	7.3	2	6.1	11.6	14.2
1971-75.....	6.2	7.3	3.1	5.0	5.6	8.1
1961-67.....	(4.7)5.2	(6.9)7.7	(1.2)1.0	(3.9)3.9	(6.8)8.5	(6.6)6.9
1966-75.....	(6.0)6.1	(6.8)6.9	(1.1).8	(5.4)5.4	(5.6)5.6	(10.4)11.2

<sup>1</sup> Not available.

Note: Growth rates for FYP periods calculated as compound rate from base year (immediately preceding 1st year of period) to final year; same procedure for longer periods, but rates from fitted exponential trends also given in parentheses.

Sources: For 1961-73, SE 74, p. 73; for 1974-75, SE 75, pp. 59-60; for 1976, Nepszabadsag Feb. 13, 1977.

TABLE 2.—USES OF NMP DISTRIBUTED

[In percentage shares]

	Private consumption	Public consumption	Total consumption	Net accumulation of fixed-assets	Increase in unfinished investment	Increase in stocks	Total net accumulation	Export surplus as percent of NMPD
1960.....	73.0	6.8	79.8	13.2	2.3	4.7	20.2	-2.5
1961.....	72.2	7.6	79.8	12.8	.6	6.8	20.2	-.2
1962.....	70.1	9.3	79.4	12.9	1.3	6.4	20.6	-.6
1963.....	68.9	8.9	77.8	14.5	1.8	5.9	22.2	-1.8
1964.....	68.6	8.9	77.5	14.5	.7	7.3	22.5	-3.2
1965.....	71.2	8.6	79.8	14.2	.9	5.1	20.2	-.8
1966.....	70.5	8.2	78.7	13.4	2.8	5.2	21.3	+1.2
1967.....	67.2	7.7	74.9	16.0	1.3	7.9	25.1	-2.2
1968.....	67.7	8.5	76.2	14.8	2.6	6.4	23.8	-1.0
1969.....	68.9	9.0	77.9	14.9	3.5	3.7	22.1	+2.8
1970.....	66.6	9.0	75.6	19.5	2.2	2.7	24.4	-3.5
1971.....	63.2	8.9	72.1	18.0	4.2	5.7	27.9	-8.2
1972.....	68.0	9.3	77.3	20.2	1.5	1.0	22.7	+ .9
1973.....	69.1	9.3	78.4	20.5	.7	.4	21.6	+4.8
1974.....	65.5	9.3	74.8	17.1	3.5	4.6	25.2	-5.4
1975.....	66.1	9.1	75.2	22.4	1.0	1.4	24.8	-6.1
1961-65.....	70.6	8.4	79.0	13.3	1.7	6.0	21.0	-1.4
1966-70.....	68.1	8.4	76.5	15.5	3.7	4.3	23.5	-2.6
1971-75.....	66.4	9.2	75.6	19.7	2.1	2.6	24.4	-2.9

Sources: For 1961-65, 1966-70, 1971, 1972, 1973, SE 74, p. 74; for 1960, 1965, 1970, 1974, 1975, SE 75, p. 60; for 1961 to 1964 and 1966 to 1969, SY 70, pp. 64-65.

TABLE 3.—USES OF GDP DISTRIBUTED

[In percentage shares]

	Personal consumption	Public consumption	Total consumption	Fixed capital formation	Increase in stocks	Total capital formation	Export surplus as percent of GDPD
1970.....	59.5	9.3	68.9	28.9	2.2	31.1	-2.9
1971.....	56.8	9.3	66.1	27.5	6.4	33.9	-6.6
1972.....	60.1	9.7	69.8	29.4	.8	30.2	+ .8
1973.....	60.9	9.6	70.5	29.3	.3	29.6	+4.1
1974.....	58.2	9.4	67.6	28.7	3.7	32.4	-5.4
1975.....	58.1	9.4	67.5	31.1	1.4	32.5	-6.1

Note: Totals may not sum to 100 due to rounding.

Source: Placing memorandum for Eurocurrency loan to National Bank of Hungary, December 1976; SE 75, p. 60.

TABLE 4.—GDP AND GNP  
[Annual percentage changes, at constant prices of 1968]

	Material output	Services	Total GDP	Real GNP, Alton recalculation
1971.....	6.5	10.3	6.9	4.9
1972.....	5.0	6.5	5.2	2.5
1973.....	7.5	6.4	7.4	5.4
1974.....	7.3	6.8	7.3	3.2
1961-65.....	4.5	4.0	4.4	NA
1966-70.....	6.6	3.9	6.3	3.0
1971-74.....	6.6	7.5	6.7	4.0

Notes: 1. Current and constant price data for 1974 (SE 74, p. 79) imply that the GDP deflator increased at 2 percent per annum in the period 1968-74. 2. Growth rates for FYP periods calculated as compound rate from base year (immediately preceding 1st year of period) to final year.

Sources: For 1960, 1965, 1970, 1973, 1974, SE 74, p. 79; for 1972, SE 73, p. 75; for 1971, SE 72, p. 73.

Alton's recalculation and methodology are given in Alton (1976). Although Alton (1974) gives a GNP index going back to 1950, we do not cite from this the growth rate over 1961-1965, because the more recent figures differ considerably from those calculated by Alton (1974) for the period over which they overlap. Thus Alton (1974) gives a growth rate of 4.3 percent per annum for the period from 1967 to 1972, while Alton (1976) gives only 2.1 percent per annum for the same period; Alton (1974) gives growth rates of 6.6 percent and 4.1 percent for GNP in 1971 and 1972, respectively, which are much more like the official series than Alton (1976).

TABLE 5.—SOURCES OF NMP PRODUCED

[Percentage shares, at constant prices of 1968]

	Industry	Construction	Agriculture and forestry	Transport and commu- nications	Trade	Other
1961-65.....	39.5	10.7	26.5	5.8	13.5	4.0
1966-70.....	42.2	11.2	21.8	6.1	13.9	4.8
1971-75.....	43.7	11.6	17.2	6.4	16.1	5.0
1971.....	42.2	11.9	18.3	6.4	15.5	5.7
1972.....	43.1	11.5	18.0	6.4	15.7	5.3
1973.....	43.5	11.3	18.0	6.4	15.8	5.0
1974.....	44.4	11.4	16.6	6.4	16.3	4.9
1975.....	44.7	11.7	15.4	6.3	17.1	4.7

Sources: For 1961-65, 1966-70, 1971, 1972, 1973, SE 74, p. 74; for 1974, 1975, SE 75, p. 60.

TABLE 6.—FIXED CAPITAL STOCK

[Gross value, at constant prices, beginning-year data, 1960=100]

Industry	Construction	Agriculture and food	Transport and communications	Trade	Material production	Non-material production	Total	
<b>Fixed capital stock:</b>								
1961	108	114	101	103	111	105	104	
1962	116	124	103	106	123	109	106	
1963	124	137	107	109	135	114	112	
1964	132	159	112	112	150	121	113	
1965	143	179	117	116	164	127	116	
1966	153	200	123	119	180	134	120	
1967	162	217	129	124	196	141	124	
1968	171	236	136	129	213	148	128	
1969	185	276	145	133	238	158	132	
1970	200	312	154	136	264	167	136	
1971	216	373	165	142	294	179	142	
1972	234	463	179	146	334	193	148	
1973	254	512	194	153	365	207	155	
1974	274	565	211	158	399	221	162	
1975	293	633	225	164	447	235	169	
<b>Growth rates:</b>								
1961-65	7.2	11.9	4.0	2.9	10.2	5.0	3.1	4.2
1966-70	7.1	13.3	6.1	3.6	10.3	6.0	3.4	4.8
1971-74	7.9	14.1	8.1	3.7	11.0	7.0	4.4	6.1
1961-67	(6.7)6.8	(10.9)11.0	(4.4)4.3	(3.2)3.3	(9.3)9.8	(5.0)5.0	(3.1)3.2	(4.2)4.2
1968-74	(7.8)8.0	(14.5)15.1	(7.3)7.5	(3.5)3.5	(10.6)11.2	(6.7)6.8	(4.1)4.1	(5.6)5.7

Note: Growth rates for FYP periods calculated as compound rates from base year (immediately preceding first year of period) to final year; same procedure for longer periods, but rates from fitted exponential trends also given in parentheses.

Sources: For 1961-73, SE 74, p. 89; for 1974-75, SE 75, p. 69.

TABLE 7.—GROSS FIXED INVESTMENT

[Annual percentage changes (from volume indexes)]

	Socialist sector					Total
	Total	Industry	Construction	Agriculture and forestry	Transport and communications	
1958	28.3	19.2	-12.4	44.8	58.6	17.8
1959	35.4	33.4	79.6	107.8	50.0	37.6
1960	14.5	11.1	53.4	34.7	14.9	9.8
1961	-3.0	3.4	-27.9	-21.6	-28.5	-14.8
1962	9.9	11.2	18.8	22.8	35.1	13.5
1963	13.8	5.9	41.9	26.0	30.7	31.9
1964	4.2	5.8	.5	8.2	.1	2.9
1965	1.6	3.2	20.3	-13.1	10.3	1.2
1966	10.7	13.1	12.1	2.8	6.7	10.2
1967	19.6	22.2	49.6	19.6	23.7	21.8
1968	1.8	-22.5	-40.3	12.3	-9.6	-15.4
1969	9.7	26.1	52.2	30.0	12.5	31.7
1970	17.1	10.4	53.6	25.1	22.6	16.5
1971	11.4	11.0	23.5	-3.6	4.1	10.6
1972	-1.4	1.6	-15.6	-16.1	-4.4	2.3
1973	3.5	.3	-12.4	-.7	4.7	3.4
1974	9.2	9.7	.5	9.4	13.2	9.8
1975	13.8	10.4	23.8	11.3	28.7	14.8

Sources: For total investment, SE 75, pp. 4-5; for sector investment, SE 75, p. 74, and Beruhazasi adattar, p. 44.

TABLE 8.—Stock of unfinished investment as percentage of investment completed during year (Socialist sector)

1960.....	68.6	1970.....	85.3
1965.....	74.5	1971.....	99.1
1966.....	86.7	1972.....	98.0
1967.....	84.1	1973.....	90.6
1968.....	84.9	1974.....	102.7
1969.....	95.5	1975.....	83.7

NOTE.—Calculated from current price data. Stock taken at end-year.

Source: SE 75, pp. 4-5.

TABLE 9.—INVESTMENT BY AUTHORITY, 1968-75

[Percentage shares]

	Large State investment	"Group" investment	Other State investment	Total State investment	State enterprises' investment	Co-operatives' investment	Total enterprise investment
<b>Investment in industry:</b>							
1968.....	38.6	10.1	1.2	49.9	48.8	1.3	50.1
1969.....	40.2	9.3	.4	49.9	48.5	1.6	50.1
1970.....	32.5	8.7	.6	41.8	55.9	2.3	58.2
1971.....	32.2	1.0	1.0	34.2	63.1	2.7	65.8
1972.....	35.2	1.0	.8	37.0	60.2	2.8	63.0
1973.....	32.9	1.0	.6	34.5	62.6	2.8	65.4
1974.....	29.2	1.2	.7	31.1	66.2	2.7	68.9
1975.....	30.8	1.3	.3	32.4	64.4	3.2	67.6
<b>Total investment:</b>							
1968.....	19.3	22.7	8.7	50.7	34.5	14.8	49.3
1969.....	20.4	21.6	8.9	50.9	34.1	15.0	49.1
1970.....	15.6	21.0	8.4	45.0	38.2	15.9	54.1
1971.....	14.9	18.5	10.0	43.4	41.9	14.6	56.5
1972.....	16.6	20.5	9.6	46.7	40.7	12.5	53.2
1973.....	14.9	20.3	10.2	45.4	42.4	12.1	54.5
1974.....	13.0	21.2	10.7	44.9	43.3	11.9	55.2
1975.....	13.8	20.6	10.8	45.2	42.9	11.9	54.8

Note: Shares calculated from current price data; totals may not add to 100 because of rounding.

Sources: For 1968-69, SE 73, p. 96; for 1970-75, SE 75, p. 86.

TABLE 10.—STRUCTURE OF INVESTMENT (SOCIALIST SECTOR)

[Percentage shares (from current price data)]

	Industry	Construction	Agriculture and forestry	Transport and Communications	Trade	Other
1968.....	39.6	2.0	17.5	15.2	2.9	22.8
1969.....	37.8	2.3	17.2	13.0	3.9	25.8
1970.....	35.8	3.0	18.6	13.6	3.5	25.6
1971.....	35.7	3.3	16.2	12.9	4.2	27.7
1972.....	37.5	2.9	13.8	12.6	3.9	29.3
1973.....	36.5	2.4	13.0	12.8	4.6	30.7
1974.....	36.3	2.2	13.0	13.3	4.8	30.5
1975.....	35.1	2.3	12.4	15.1	5.3	29.8
1961-65.....	42.6	2.3	15.6	14.1	3.3	22.1
1966-70.....	39.2	2.6	16.5	14.0	3.5	24.3
1971-75.....	36.2	2.6	13.5	13.4	4.6	29.6
1961-67.....	42.7	2.4	15.0	14.2	3.3	22.3
1968-75.....	36.5	2.6	14.7	13.5	4.3	28.3

Note: "Other" includes "communal" investment (public buildings, housing built in Socialist sector, investment in water supplies and other infrastructure, etc.).

Source: SE 75, p. 74.

TABLE 11.—STRUCTURE OF INVESTMENT IN INDUSTRY  
[Percentage shares (from current price data)]

	Mining	Elec- tricity	Metal- lurgy	Engi- neering	Building materials	Chemical	Light industry	Food industry	Other
1961-65.....	18.6	14.1	9.8	17.6	6.0	16.1	9.5	8.0	0.4
1966-70.....	14.5	12.5	11.2	18.4	6.6	16.2	10.0	9.7	0.9
1971-75.....	9.7	13.2	7.7	16.3	8.6	18.8	13.3	11.2	1.3
1961-67.....	17.5	13.4	10.4	17.6	5.8	16.7	9.8	8.3	5
1968-75.....	11.0	13.0	8.7	17.0	8.2	17.8	12.2	10.9	1.2

Sources: For 1961-65, SE 72, p. 89; for 1966-75, SE 75, p. 76.

TABLE 12.—GROSS VALUE OF OUTPUT AT CONSTANT PRICES BY INDUSTRIAL BRANCH (SOCIALIST INDUSTRY)  
[Annual growth rates]

	1961-65	1966-70	1971-75	1961-67	1968-75
Mining.....	5.4	3.7	2.0	4.1	3.4
Electricity.....	8.9	8.2	7.6	8.9	7.6
Metallurgy.....	5.4	5.5	5.0	5.8	4.8
Machinery.....	7.2	7.5	5.5	7.9	5.8
Transport equipment.....	8.7	5.5	9.7	8.3	7.7
Electricity generating equipment.....	10.2	7.1	8.8	10.1	7.5
Electronics.....	18.2	9.9	12.9	16.8	10.9
Precision instruments.....	13.4	10.8	8.7	12.8	9.4
Iron and metal mass goods.....	8.2	10.2	2.2	8.2	5.6
Engineering.....	9.7	7.7	7.8	9.5	7.4
Building materials.....	6.5	5.2	5.1	7.6	3.9
Chemicals.....	13.8	11.6	10.5	13.6	10.5
Heavy industry.....	8.6	7.4	7.2	8.6	7.0
Wood processing.....	9.8	3.4	8.6	8.5	6.2
Paper.....	9.0	9.4	7.4	10.7	6.9
Printing.....	7.9	9.4	7.8	7.8	8.8
Textiles.....	6.2	1.9	4.0	6.4	2.0
Leather, fur, and shoes.....	4.6	4.8	5.1	5.8	4.1
Clothing.....	4.8	5.4	4.9	6.5	3.8
Light industry.....	6.4	4.4	5.7	7.0	4.2
Food industry.....	7.5	4.7	4.7	6.9	4.5
Total.....	8.0	6.3	6.4	7.9	6.0

Note: Growth rates calculated as compound rate from base year (immediately preceding 1st year of period) to final year.  
Source: SE 75, pp. 124-125.

TABLE 13.—COMPOSITION OF MACHINERY INVESTMENT (SOCIALIST SECTOR)  
[Percentage shares (from current price data)]

	Domestically produced	Imported from Socialist countries	Imported from non-Socialist countries
1968.....	55.0	27.3	17.7
1969.....	56.5	23.7	19.8
1970.....	50.2	29.1	20.7
1971.....	47.1	30.4	22.5
1972.....	46.7	25.9	27.3
1973.....	48.2	28.0	23.8
1974.....	47.2	29.0	23.8
1975.....	45.7	32.6	21.7

Note: Totals may not sum to 100 due to rounding.  
Source: SE 75, p. 74.

TABLE 14.—INDUSTRY: GROSS AND NET OUTPUT

[Annual growth rates]

	Gross value of output at constant prices	Contribution of industry to NMP
1961-65.....	7.7	7.1
1966-70.....	6.2	7.3
1971-75.....	6.4	7.3
1961-67.....	(7.2) 7.7	(6.9) 7.7
1968-75.....	(6.0) 6.0	(6.8) 6.8
1968.....	4.7	5.9
1969.....	2.5	4.5
1970.....	8.6	8.1
1971.....	6.8	5.7
1972.....	5.1	7.2
1973.....	7.0	8.5
1974.....	8.4	9.1
1975.....	4.6	6.2
1976.....	4.1	.....

Note: Growth rates for FYP periods calculated as compound rates from base year (immediately preceding first year of period) to final year; same procedure for longer periods, but rates from fitted exponential trends also given in parentheses.

Sources: For gross value of output at constant prices, SE 75, p. 106, and index numbers for OLS fit, SE 74, p. 24, and SE 75, p. 106. For contribution to NMP, SE 75, p. 59, and index numbers for OLS fit, SE 74, p. 73, and SE 75, p. 59.

TABLE 15.—EMPLOYMENT IN INDUSTRY

[Annual percentage change]

	State industry	Cooperative industry	Total Socialist industry
1968.....	4.2	5.6	4.3
1969.....	2.9	3.3	2.9
1970.....	.1	3.1	.5
1971.....	-.4	1.0	-.2
1972.....	-.5	-2.8	-.8
1973.....	1.2	1.7	1.2
1974.....	.8	1.9	.9
1975.....	-.2	-.1	-.2
1961-65.....	3.0	1.9	NA
1966-70.....	2.0	5.7	NA
1971-75.....	.2	.3	.2
1961-67.....	(2.5) 2.5	(3.0) 3.7	NA
1968-75.....	(.7) 1.0	(1.3) 1.7	(.8) 1.1

Note: Growth rates for FYP periods calculated as compound rates from base year (immediately preceding 1st year of period) to final year; same procedure for longer periods, but rates from fitted exponential trends also given in parentheses.

Sources: For 1960-74, SE 74, p. 113; for 1975, SE 75, p. 95.

TABLE 16.—PRODUCTIVITY IN INDUSTRY

[Annual growth rates]

	Gross value of output per man at constant prices, state industry	Output per man-hour in socialist industry (gross value of output at constant prices)	Output per man on basis of physical output series, state industry	Contribution of industry to NMP per industrial employee, all industry
1968.....	0.6	4.2	1.2	1.5
1969.....	— 8	5.3	— 5	1.7
1970.....	8.1	8.9	6.5	7.6
1971.....	7.0	7.8	5.0	5.8
1972.....	5.5	6.1	3.3	8.6
1973.....	5.5	6.4	5.1	7.2
1974.....	7.5	8.3	6.0	8.3
1975.....	4.8	6.2	4.3	6.4
1976.....	4.9	13.5	(?)	(?)
1961-65.....	4.9	5.5	4.2	4.6
1966-70.....	3.9	6.0	3.2	4.9
1971-75.....	6.1	6.9	4.7	7.3
1961-67.....	(4.8) 5.2	5.5	(3.9) 4.3	(4.7) 5.2
1968-75.....	(5.1) 4.7	6.6	(4.1) 3.8	(6.1) 5.9

1 January–November 1976/January–November 1975.

2 Not available.

Note: Growth rates for FYP periods calculated as compound rates from base year (immediately preceding 1st year of period) to final year; same procedure for longer periods, but rates from fitted exponential trends also given in parentheses.

Sources: For gross value of output per man, state industry, 1961–73, SE 74, p. 124; for 1974–75, SE 75, p. 106; for 1976, Nepszabadsag Feb. 13, 1977. For output per man-hour in socialist industry, SE 75, pp. 6–7, SHK 1976/11, p. 9. For output per man, physical output series, 1961–73, SE 74, p. 124; for 1974–75, SE 75, p. 106. For contribution of industry to NMP, 1960–73, SE 74, p. 73; for 1974–75, SE 75, p. 59. For industrial employment, 1960–73, SE 74, p. 125; for 1974–75, SE 75, p. 107.

TABLE 17.—OUTPUT IN AGRICULTURE

[1960=100]

	Gross output			Net output
	Plants	Animals	Total	
1965.....	101	113	106	97
1966.....	115	118	116	107
1967.....	118	123	120	108
1968.....	117	127	121	107
1969.....	133	124	129	121
1970.....	111	137	122	96
1971.....	124	146	133	106
1972.....	132	143	137	109
1973.....	143	150	146	117
1974.....	143	162	151	113
1975.....	147	164	154	113
1976.....	140	162	149	(1)
Annual percentage change:				
1961-65.....	(1.7) 2	(2.6)2.5	(2.0)1.2	(.9)–.6
1966-70.....	(2.6)1.9	(3.3)3.9	(2.9)2.9	(.9)–.2
1971-75.....	(5.5)5.8	(3.6)3.7	(4.6)4.8	(3.1)3.3
1961-67.....	(2.7)2.4	(2.7)3.0	(2.7)2.8	(1.4)1.1
1968-75.....	(3.0)2.8	(3.8)3.7	(3.4)3.2	(.7).6

1 Not available.

Note: Growth rates for official series calculated as compound rate from base year (immediately preceding 1st year of period) to final year, and fitted exponential trends given in parentheses.

Sources: For 1960–73, SE 74, p. 241; for 1974–75, SE 75, p. 207; for 1976, Nepszabadsag, Feb. 13, 1977.

TABLE 18.—AGRICULTURAL PRODUCER PRICES  
[Annual percentage change]

	State procurement prices			Market prices		
	Plant products	Animals and animal products	Total	Plant products	Animals and animal products	Total <sup>1</sup>
1961-65.....	3.3	2.6	2.9	4.6	1.6	3.6
1966.....	6.8	12.8	10.3	-1	7.5	2.2
1967.....	-3	3.7	2.0	-1	1.0	.3
1968.....	12.1	7.3	9.3	6.9	-1.8	3.9
1969.....	-1.9	2.3	.3	-9.6	4.0	-5.0
1970.....	1.6	12.5	7.6	5.5	1.4	3.8
1971.....	7.9	-9	2.6	13.2	-4.5	6.1
1972.....	2.5	2.1	2.3	.9	4.2	1.9
1973.....	1.8	13.3	7.9	2.0	8.9	4.3
1974.....	2.2	1.1	1.6	10.6	-1.4	6.2
1975.....	.5	-6	-1	.9	2.3	1.4
1966-70.....	3.5	7.6	5.8	.4	2.4	1.0
1971-75.....	2.9	2.9	2.8	5.4	1.8	3.9
1961-67.....	(3.1)3.3	(3.8)4.2	(3.5)3.8	(2.8)3.3	(2.1)2.3	(2.6)2.9
1968-75.....	(3.0)3.2	(4.7)4.5	(3.9)3.9	(3.8)3.6	(1.7)1.6	(2.9)2.8

Note: Growth rates for FYP periods calculated as compound rate from base year (immediately preceding 1st year of period) to final year; same procedure for longer periods, but rates from fitted exponential trends also given in parentheses..

Sources: For 1961-65, 1966-70, 1971-75, and 1966 to 1975, SE 75, p. 226; for 1961-67, 1968-75, SE 72, p. 275, SE 74, p. 266, SE 75, p. 226.

TABLE 19.—AVERAGE MONTHLY WAGES AND EARNINGS IN STATE INDUSTRY  
[Annual percentage change]

	Average monthly wages		Average monthly earnings	
	Nominal	Real	Nominal	Real <sup>1</sup>
1968.....	2.2	2.4	( <sup>1</sup> )	( <sup>1</sup> )
1969.....	3.7	2.4	( <sup>1</sup> )	( <sup>1</sup> )
1970.....	5.3	3.9	( <sup>1</sup> )	( <sup>1</sup> )
1971.....	3.8	1.7	3.5	1.3
1972.....	4.6	1.6	5.1	2.1
1973.....	9.4	5.7	9.5	5.7
1974.....	7.1	5.4	8.1	6.4
1975.....	6.6	2.7	7.0	3.1
1961-65.....	1.8	1.3	( <sup>1</sup> )	( <sup>1</sup> )
1966-70.....	3.7	2.7	( <sup>1</sup> )	( <sup>1</sup> )
1971-75.....	6.3	3.4	6.6	3.7
1961-67.....	(2.3)2.3	(1.6)1.6	( <sup>1</sup> )	( <sup>1</sup> )
1968-75.....	(5.3)5.3	(3.2)3.2	( <sup>1</sup> )	( <sup>1</sup> )

<sup>1</sup>Not available.

Note: Growth rates for FYP periods calculated as compound rate from base year (immediately preceding 1st year of period) to final year; same procedure for longer periods, but rates from fitted exponential trends also given in parentheses. Deflator is consumer price index for workers.

Sources: For average monthly wages, 1960-74, SE 74, p. 116; for 1975, SE 75, p. 98. For average monthly earnings, 1970-75, SE 75, p. 98. For CPI of workers, SE 74, p. 379 and SE 75, p. 326.

TABLE 20.—REAL INCOMES

[Annual percentage change]

	Real per capita income <sup>1</sup>	Real wage <sup>2</sup>
1968.....	6.3	2.3
1969.....	5.9	4.5
1970.....	7.3	4.7
1971.....	4.5	2.3
1972.....	3.1	2.2
1973.....	5.0	2.8
1974.....	6.4	5.6
1975.....	4.0	3.9
1976.....	1.0	(*)
1961-65.....	3.4	1.7
1966-70.....	6.2	3.5
1971-75.....	4.6	3.3
1961-67.....	(4.0) 4.0	(2.1) 2.1
1968-75.....	(5.1) 5.3	(3.4) 3.5

<sup>1</sup> Includes income in kind from social services, etc.<sup>2</sup> Net per capita earnings from employment deflated by consumer price index.

\* Not available.

Note: Growth rates for FYP periods calculated as compound rate from base year (immediately preceding 1st year of period) to final year; same procedure for longer periods, but rates from fitted exponential trends also given in parentheses.

Sources: For 1961-65, 1966-70, 1971-75, and 1968-75, SE 75, p. 313; for 1961-67, 1968-75, SE 74, pp. 365-366, SE 75, p. 313; for 1976, Nepszabadsag, Feb. 13, 1977.

TABLE 21.—PER CAPITA INCOME AND CONSUMPTION EXPENDITURE

[Annual percentage change]

	Money disposable income, per capita	Real disposable income, per capita	Real consumption expenditure, per capita
1961-67.....	(5.6) 5.7	(5.2) 5.1	(4.9) 5.1
1968.....	7.8	8.2	6.0
1969.....	8.9	7.4	6.0
1970.....	9.9	8.4	8.2
1971.....	7.4	5.3	6.2
1972.....	6.9	3.9	4.7
1973.....	9.3	5.8	4.9
1974.....	9.5	7.5	7.1
1975.....	8.5	4.5	3.9
1968-75.....	(8.1) 8.5	(6.0) 6.4	(5.8) 5.9
1961-65.....	5.0	4.6	4.4
1966-70.....	8.2	8.0	6.8
1971-75.....	8.3	5.4	5.3

Notes: Real income is money income deflated by CPI. Growth rates for FYP periods calculated as compound rate for base year (immediately preceding 1st year of period) to final year; same procedure for longer periods, but rates from fitted exponential trends also given in parentheses.

Source: Rudcenko (1976) p. 27, cols (2), (7), deflated by midyear population data.

TABLE 22.—RELATIVE PER CAPITA INCOMES

[Working class equals 100]

	Total	Working class	Cooperative peasantry	Dual-income group	Nonphysical workers	Pensioners, etc.
1970.....	106.3	100	106.4	110.1	133.6	73.4
1971.....	107.4	100	107.8	110.7	137.4	75.6
1972.....	107.6	100	109.1	112.0	137.4	76.2
1973.....	107.4	100	110.6	114.0	133.8	79.1
1974.....	106.3	100	109.0	113.2	129.8	79.0
1975.....	105.7	100	108.3	112.9	129.3	79.4

Notes: "Dual Income" households are those which receive both nonagricultural and agricultural incomes. Statistical classifications changed during the period 1965-75, so it is impossible to derive a consistent series for the whole period from published CSO sources. A recent article in the party monthly, however, does give data for 1965-75 on a different classification from that in our table (J. Balint, Tarsadalmi Szemle April 1976). Taking "working class" per capita income as 100, this shows "peasant" incomes starting at 93 in 1965, going to 102 in 1968, 104 in 1970, peaking at 107 in 1973, then coming down to 105 in 1974 and 104 in 1975.

Source: SE 75, p. 314.

TABLE 23.—CONSUMER PRICE INDEX BY COMMODITY

[Annual percentage changes]

	Food	Beverages, tobacco	Clothing	Heating	Durables	Other industrial goods	Services	Total
1968.....	-0.5	1.5	-0.4	-1.1	-1.4	-3.5	3.7	-0.3
1969.....	.8	-2	3.0	-4.1	1.9	3.0	2.9	1.4
1970.....	.9	.5	2.3	-1.8	-1	3.3	1.9	1.3
1971.....	2.0	1.3	2.4	-9	1.2	1.7	4.5	2.0
1972.....	1.1	7.0	4.0	-2.1	2.4	2.3	3.5	2.9
1973.....	4.7	7.7	1.8	-2.0	1.8	.8	2.2	3.3
1974.....	.5	2.3	2.0	5.6	2.4	2.1	1.8	1.8
1975.....	1.2	3.6	4.7	7.8	4.6	9.0	2.2	3.8
1976.....	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	5.0
1961-65.....	.6	2.1	-3	-6	-5	-2	.5	.4
1966-70.....	1.3	.9	0	.5	.1	.3	2.2	.8
1971-75.....	1.9	4.3	3.0	1.6	2.5	3.1	2.9	2.8
1961-67.....	(1.2)1.2	(1.7)1.9	(-.9)-.9	(.7)1.0	(-.5)-.4	(-.4)-.4	(.5).7	(.4).5
1968-75.....	(1.5)1.3	(3.1)2.9	(2.5)2.5	(-.5).1	(1.5)1.6	(2.2)2.3	(2.9)2.8	(2.1)2.0

<sup>1</sup> Not available.

Note: Growth rates for FYP periods calculated as compound rate from base year (immediately preceding 1st year of period) to final year; same procedure for longer periods, but rates from fitted exponential trends also given in parentheses.

Sources: For 1961-65, 1966-70, 1971-75, and 1968-75, SE 75, p. 326; for 1961-67, 1968-75, SE 74, p. 379 and SE 75, p. 326; for 1976, Nepszabadsag Feb. 13, 1977.

TABLE 24.—PRODUCER PRICES IN SOCIALIST INDUSTRY<sup>1</sup>

[Annual percentage changes]

	1969	1970	1971	1972	1973	1974	1975	1976 <sup>2</sup>	1975 (1968=100)
Heavy industry.....	1.7	2.2	0.9	2.4	2.0	3.6	11.4	3.5	126
Mining.....	.4	.1	-1.3	.1	-1	0	30.0	-3	129
Metallurgy.....	.9	4.0	-7	3.9	2.7	7.4	11.4	-1.0	133
Engineering.....	1.6	1.5	1.6	3.5	2.7	1.9	4.8	.5	119
Building materials.....	2.9	2.1	6.3	5.8	1.5	1.4	6.1	8.9	129
Chemicals.....	3.8	4.0	.2	-1.0	1.1	7.1	24.9	4.4	145
Light industry.....	2.4	1.8	1.2	1.7	1.7	3.3	16.4	2.3	131
Textile industry.....	3.9	2.2	.6	1.0	1.6	4.1	24.0	-1	142
Food industry.....	1.8	3.1	4.7	1.3	7.7	2.3	2.5	10.6	126
Socialist industry, total.....	1.8	2.3	1.6	1.9	3.0	3.3	10.6	4.6	127

<sup>1</sup> Price deflator for enterprise sales.

<sup>2</sup> January–November 1976/January–November 1975.

Sources: For 1969 and 1970, SE 72, p. 168; for 1971–75, SE 75, p. 140; for 1976, SHK 1976/11, p. 60

TABLE 25.—PRICE INDEXES  
[Annual percentage change]

	Investment goods prices (socialist sector)				Construction industry prices
	Total	Construction	Domestic machinery	Imported machinery	
1969.....	2.4	3.9	0.1	1.4	4.3
1970.....	1.8	3.6	.3	-.8	3.9
1971.....	1.7	3.0	.8	.2	4.1
1972.....	4.8	4.2	4.4	7.1	4.5
1973.....	1.5	1.5	1.3	2.1	4.1
1974.....	1.3	2.0	.9	1.0	1.9
1975.....	2.9	3.0	2.5	4.0	3.4

Sources: For investment goods 1969-70, SE 72, p. 92; for 1971-75, SE 75, p. 81. For construction industry 1969-70, SE 72 p. 225; 1971-75, SE 75, p. 187.

TABLE 26.—TRADE BY COUNTRY GROUPS  
[In millions of dollars]

Year:	Exports			Imports			Balance of trade		
	Socialist	ACC	LDC	Socialist	ACC	LDC	Socialist	ACC	LDC
1960.....	624.1	192.0	57.8	681.3	236.7	57.8	-57.2	-44.7	0
1961.....	756.7	196.9	75.4	705.0	247.2	73.3	51.7	-50.3	2.1
1962.....	814.4	215.5	69.4	825.5	242.2	81.0	-11.1	-26.7	-11.6
1963.....	850.2	280.8	74.7	907.6	306.9	91.0	-57.4	-26.1	-16.3
1964.....	964.0	302.3	85.4	1,000.0	380.4	114.1	-36.0	-78.1	-28.7
1965.....	1,060.1	342.4	106.9	1,023.9	383.0	113.4	36.2	-40.6	-6.5
1966.....	1,094.0	404.8	94.5	1,030.2	409.4	125.9	63.8	-4.6	-31.4
1967.....	1,172.8	417.3	110.0	1,198.4	461.3	115.5	-25.6	-44.0	-4.5
1968.....	1,276.0	412.2	100.9	1,241.8	445.3	115.6	34.2	-33.1	-14.7
1969.....	1,436.3	517.9	129.4	1,324.8	478.5	124.4	111.5	39.4	5.0
1970.....	1,550.3	629.6	136.7	1,649.3	678.4	177.4	-99.0	-48.8	-40.7
1971.....	1,744.5	617.2	138.8	1,995.0	836.1	158.6	-250.5	-218.9	-19.8
1972.....	2,298.1	824.0	169.5	2,075.7	890.5	187.7	222.4	-66.5	-18.2
1973.....	3,133.8	1,241.5	219.1	2,569.6	1,241.4	265.5	564.2	.1	-46.4
1974.....	3,441.2	1,362.7	324.6	3,184.9	1,965.3	424.6	256.3	-602.6	-100.0
1975.....	4,426.0	1,336.1	366.1	4,748.1	1,978.7	501.9	-322.1	-642.6	-135.8
	Annual growth rates						Annual average balance		
	Socialist	ACC	LDC	Socialist	ACC	LDC	Socialist	ACC	LDC
1961-65.....	11.2	12.3	13.1	8.5	10.1	14.4	-3.3	-44.4	-12.2
1966-70.....	7.9	13.0	5.0	10.0	12.1	9.4	17.0	-18.2	-17.3
1971-75.....	23.3	16.2	21.8	23.6	23.9	23.1	94.1	-306.1	-64.0
1961-67.....	9.4	11.7	9.8	8.4	10.0	10.4	3.1	-38.6	-13.8
1968-75.....	(8.5)	(12.5)	(8.5)	(7.8)	(10.5)	(10.5)	64.6	-196.6	-46.3
	(17.1)	(17.1)	(15.9)	(16.5)	(20.8)	(18.9)			

Notes: Data in devisa forints converted to dollars at official "basic" (accounting) rates (table 32). Growth rates for FYP periods calculated as compound rate from base year (immediately preceding 1st year of period) to final year; same procedure for longer periods, but rates from fitted exponential trends also given in parentheses. Imports valued c.i.f., exports f.o.b.

Source: KSE 75, p. 14.

TABLE 27.—TRADE BY CURRENCY CLEARING RELATIONS

[In millions of dollars]

Year:	Exports		Imports		Balance of trade	
	Ruble	Dollar	Ruble	Dollar	Ruble	Dollar
1961.....	719.5	322.8	667.3	332.9	52.2	-10.1
1962.....	772.9	343.6	776.9	344.2	-4.0	-0.6
1963.....	807.7	418.1	858.1	413.8	-50.4	4.3
1964.....	908.2	467.5	945.6	512.8	-37.4	-45.3
1965.....	1,005.3	526.7	965.6	520.1	39.7	6.6
1966.....	1,040.3	576.4	958.0	573.0	82.3	3.4
1967.....	1,121.5	607.0	1,116.0	626.2	5.5	-19.2
1968.....	1,236.2	578.1	1,172.9	594.5	63.3	-16.4
1969.....	1,358.3	756.1	1,224.5	669.9	133.8	86.2
1970.....	1,443.1	905.5	1,521.4	942.6	-78.3	-37.1
1971.....	1,620.0	912.2	1,824.8	1,108.8	-204.8	-196.6
1972.....	2,177.4	1,157.3	1,937.0	1,159.4	240.4	-2.1
1973.....	2,831.5	1,820.8	2,369.9	1,640.2	461.6	180.6
1974.....	2,968.0	2,227.0	2,799.9	2,700.7	188.1	-473.7
1975.....	3,889.2	2,320.0	4,379.8	2,738.7	-490.6	-418.7
	Annual growth rates				Annual average balance	
	Ruble	Dollar	Ruble	Dollar	Ruble	Dollar
1962-65.....	8.7	13.0	9.7	11.8	10	1 -9.0
1966-70.....	7.5	11.4	9.5	12.6	41.3	3.4
1971-75.....	21.9	20.7	23.5	23.8	38.9	-182.1
1962-67.....	7.7	11.1	9.0	11.1	12.6	-8.7
1968-75.....	(7.7)	(11.3)	(7.4)	(11.2)		
	16.8	18.2	18.6	20.3	39.2	-109.7
	(15.8)	(19.0)	(16.0)	(20.7)		

<sup>1</sup> 1961-65.<sup>2</sup> 1961-67.

Notes: Data in devisa forints converted to dollars at official "basic" (accounting) rates. Growth rates for FYP periods calculated as compound rate from base year (immediately preceding 1st year of period) to final year; same procedure for longer periods, but rates from fitted exponential trends also given in parentheses. Imports valued c.i.f., exports f.o.b.

Source: KSE 75, pp. 28-29.

TABLE 28.—COMMODITY COMPOSITION OF FOREIGN TRADE

[Percentage shares]

	With Socialist countries		With non-Socialist countries	
	Exports	Imports	Exports	Imports
1965:				
Fuels.....	0.8	14.1	1.7	0.3
Raw materials.....				
Semifinished goods.....	24.6	47.7	32.8	60.7
Components.....				
Machinery and transport equipment.....	36.4	25.0	6.4	11.8
Industrial consumer goods.....	21.7	7.1	19.9	2.6
Agricultural products.....	16.4	6.2	39.1	24.7
Processed foods.....				
1971:				
Fuels.....	.7	10.1	1.0	1.5
Raw materials.....	4.3	20.1	14.6	15.9
Semifinished goods.....	11.8	15.8	20.0	34.4
Components.....	6.9	7.1	2.0	6.7
Machinery and transport equipment.....	33.4	30.3	7.6	15.9
Industrial consumer goods.....	24.7	10.2	18.6	6.1
Agricultural products.....	5.8	2.0	17.6	7.3
Processed foods.....	12.6	4.5	18.5	12.2
1975:				
Fuels.....	.5	14.9	4.9	6.0
Raw materials.....	3.5	20.3	9.8	15.1
Semifinished goods.....	11.2	16.7	22.0	36.7
Components.....	7.3	6.3	2.6	8.3
Machinery and transport equipment.....	37.9	25.9	12.3	14.2
Industrial consumer goods.....	19.6	10.8	18.9	4.3
Agricultural products.....	9.4	.7	10.4	4.9
Processed foods.....	10.5	4.5	19.1	10.5

Note: Totals may not add to 100 because of rounding.

Source: KSE 75, pp. 31 and 36.

TABLE 29.—TERMS OF TRADE (SOCIALIST AND NONSOCIALIST)

[1970=100]

	Machinery and transport equipment	Industrial consumer goods	Raw materials and semi- finished goods	Foodstuffs	Total
<b>With Socialist countries:</b>					
1960.....	104.3	110.4	88.1	93.5	96.9
1965.....	104.5	108.5	91.7	93.3	98.8
1966.....	103.6	108.2	92.2	99.8	99.8
1967.....	101.6	103.5	93.3	98.3	99.8
1968.....	100.5	99.9	96.0	104.8	100.1
1969.....	100.0	99.8	97.0	107.0	100.2
1970.....	100.0	100.0	100.0	100.0	100.0
1971.....	99.5	96.2	98.4	99.0	98.4
1972.....	100.0	94.5	94.1	101.8	96.5
1973.....	100.4	92.2	93.7	104.5	97.3
1974.....	100.2	91.1	98.1	74.4	94.4
1975.....	102.3	96.1	77.2	63.4	85.5
<b>With non-Socialist countries:</b>					
1960.....	91.0	113.9	82.5	102.5	85.7
1965.....	99.0	102.3	86.3	114.5	94.3
1966.....	103.0	101.0	80.4	110.6	90.8
1967.....	103.5	104.7	88.0	106.4	94.1
1968.....	105.4	101.9	90.5	97.6	93.0
1969.....	103.2	102.2	93.8	100.2	96.7
1970.....	100.0	100.0	100.0	100.0	100.0
1971.....	96.6	106.2	92.8	100.5	99.2
1972.....	91.5	101.3	86.6	125.9	100.9
1973.....	87.5	100.5	82.3	121.5	97.0
1974.....	81.7	106.2	81.5	86.1	85.3
1975.....	70.6	98.7	78.6	78.3	81.1

Source: KSE 75, pp. 414-415.

TABLE 30.—TERMS OF TRADE (RUBLE AND DOLLAR)

[1970=100]

	Fuels and power	Raw materials, semi-finished goods and components	Machinery and transport equipment	Industrial consumer goods	Foodstuffs	Total
<b>Ruble clearing relations:</b>						
1970.....	100.0	100.0	100.0	100.0	100.0	100.0
1971.....	96.9	98.9	98.2	96.0	99.7	97.8
1972.....	93.9	94.9	99.8	93.4	100.6	96.3
1973.....	95.1	95.4	99.5	92.6	101.3	96.6
1974.....	95.0	95.6	99.1	93.2	101.1	97.0
1975.....	102.3	84.6	103.8	100.2	104.6	88.5
<b>Dollar clearing relations:</b>						
1970.....	100.0	100.0	100.0	100.0	100.0	100.0
1971.....	100.7	97.2	96.2	103.1	96.4	99.2
1972.....	91.2	88.8	93.0	101.9	113.7	100.6
1973.....	92.2	90.0	88.0	102.0	96.4	98.1
1974.....	94.2	84.7	82.6	101.7	82.3	83.6
1975.....	101.7	75.6	80.4	95.4	73.2	77.8

Source: KSE 75, pp. 411-412.

TABLE 31.—1975] FOREIGN TRADE [PRICES BY COMMODITY GROUPS, COUNTRY GROUP, AND CURRENCY CLEARING RELATIONS  
[1970=100]

	Ruble clearing	Dollar clearing	Total	Socialist countries	ACC	LDC
<b>IMPORTS</b>						
Fuels and power.....	201.1	320.3	206.9	207.8	317.5	375.4
Raw materials, semifinished goods, and components.....	142.1	167.7	155.3	147.4	165.3	210.7
Machinery and transport equipment.....	109.6	140.1	114.8	108.8	139.2	109.0
Industrial consumer goods.....	109.6	135.2	114.8	109.5	139.7	109.0
Foodstuffs.....	127.2	192.0	177.8	209.6	159.5	143.6
<b>Total.....</b>	<b>132.2</b>	<b>170.2</b>	<b>147.2</b>	<b>139.3</b>	<b>160.3</b>	<b>186.7</b>
<b>EXPORTS</b>						
Fuels and power.....	205.7	325.8	271.7	193.3	319.6	.....
Raw materials, semifinished goods and components.....	120.2	126.8	125.4	124.8	131.4	121.9
Machinery and transport equipment.....	113.8	112.7	112.9	112.3	118.0	108.6
Industrial consumer goods.....	109.8	129.0	114.6	110.8	130.0	125.1
Foodstuffs.....	133.1	140.6	135.9	138.8	136.8	140.4
<b>Total.....</b>	<b>117.0</b>	<b>132.5</b>	<b>122.3</b>	<b>119.3</b>	<b>136.9</b>	<b>118.7</b>
Terms of trade.....	88.5	77.8	83.1	85.6	85.4	63.6

Source: KSE 75, p. 413.

TABLE 32.—CURRENCY CONVERSION RATES

	Forint to dollar	Forint to transferable ruble
<b>Commercial rate ("Foreign trade multiplier"):</b>		
1968-71.....	60.00	40.00
1972.....	55.26	40.00
1973-74.....	46.75	40.00
1975.....	43.50	40.00
1976, Jan. 1.....	41.30	35.00
1976, Oct. 1.....	41.70	35.00
1976, Dec. 1.....	41.30	35.00
	<b>Devisaforint to dollar</b>	<b>Devisaforint to transferable ruble</b>
<b>Accounting rate for foreign trade statistics (before 1976):</b>		
Before 1972.....	11.74	13.04
1972.....	10.81	13.04
1973.....	9.150	13.04
1974.....	9.150	13.04
1975.....	8.513	13.04

Note: Average devisaforint rates calculated from dollar and ruble trade data. From 1976, foreign trade statistics appear in forints converted from dollar and transferable ruble data at commercial rates. The tourist exchange rate was 30 forints per dollar on Jan. 1, 1971, and 20.65 forints per dollar on Jan. 1, 1976.

Sources: Placing memoranda for Eurocurrency loans to Hungary, November 1975 and December 1976; KSE 75, pp. 25-29; and Magyar Kozlony, 1975/90, 1976/76, 1976/93.

TABLE 33.—BALANCE OF PAYMENTS WITH GATT COUNTRIES

[In millions of dollars]

	1968	1969	1970	1971	1972	1973	1974	1975
<b>Goods and services:</b>								
Exports.....	812	998	1,148	1,259	1,637	2,384	2,728	3,013
Imports.....	838	878	1,202	1,498	1,584	2,153	3,201	3,584
Trade balance.....	-26	+120	-54	-239	+53	+231	-473	-571
Freight and insurance on international shipments (net).....	-50	-52	-66	-85	-91	-116	-151	-169
Travel (net).....	+12	+24	+29	+48	+78	+94	+80	+79
Government expenditures (net).....	-7	-9	-10	-10	-13	-17	-20	-24
Investment income (net).....	-25	-41	-47	-41	-50	-80	-103	-159
Other current payments (net).....	+51	+35	+35	+95	+50	+209	+171	+193
Transfer payments (net).....	+14	+16	+17	+19	+32	+33	+35	+24
<b>A. Current account balance.....</b>	<b>-31</b>	<b>+93</b>	<b>-96</b>	<b>-213</b>	<b>+59</b>	<b>+354</b>	<b>-461</b>	<b>-627</b>
<b>Long-term capital movements:</b>								
Assets.....	-5	-7	-16	-8	-10	+12	-81	-63
Liabilities.....	+40	+51	+99	+165	+232	+81	+305	+343
<b>B. Total.....</b>	<b>+35</b>	<b>+44</b>	<b>+83</b>	<b>+157</b>	<b>+222</b>	<b>+93</b>	<b>+224</b>	<b>+280</b>
<b>Basic balance (A+B).....</b>	<b>+4</b>	<b>+137</b>	<b>-13</b>	<b>-56</b>	<b>+281</b>	<b>+447</b>	<b>-237</b>	<b>-347</b>
<b>Short-term capital and monetary movements:</b>								
Assets.....	+23	-178	-323	-232	-345	-227	-145	+142
Liabilities.....	-27	+41	+336	+288	+64	-220	+382	+205
<b>Balance of capital movements and monetary gold.....</b>	<b>+31</b>	<b>-93</b>	<b>+96</b>	<b>+213</b>	<b>-59</b>	<b>-354</b>	<b>+461</b>	<b>+627</b>

Note: GATT countries include Czechoslovakia, Poland, and Romania.

Source: Placing memoranda for Eurocurrency loans to National Bank of Hungary, November 1975 and December 1976, and for bond issue, May 1971.

TABLE 34.—International reserves <sup>1</sup>

	U.S. millions
Jan. 1, 1971.....	\$350
Dec. 31, 1971.....	638
Dec. 31, 1972.....	856
Dec. 31, 1973.....	1,303
Dec. 31, 1974.....	1,599
Dec. 31, 1975.....	1,624
June 30, 1976.....	1,473

<sup>1</sup> Total holdings of gold, currency, foreign exchange, securities and sight accounts.

Source: Placing memorandum for Eurocurrency loan to National Bank of Hungary, December 1976.

TABLE 35.—Hard currency debt, end 1975

[Million dollars]

Gross debt.....	2,943
Export credits on signed contracts.....	244
Bank credits.....	<sup>1</sup> 2,483
Bonds.....	216
Undrawn export credits.....	73
Deposits with Western banks.....	<sup>1</sup> 840
Net debt.....	2,030

<sup>1</sup> These figures exceed those below for liabilities and assets, December 1975, by the amount of an estimate of Hungary's share of the residual for Eastern Europe in the BIS data from which the bottom table is taken.

## POSITION WITH WESTERN COMMERCIAL BANKS

End month	Liabilities	Assets	Net liabilities
December 1974.....	<sup>1</sup> NA	NA	1,029
March 1975.....	NA	NA	1,257
June 1975.....	NA	NA	1,449
September 1975.....	NA	NA	1,423
December 1975.....	2,194	748	1,446
March 1976.....	2,565	925	1,640
June 1976.....	2,726	909	1,817
September 1976.....	2,941	871	2,070

<sup>1</sup> Not available.

Source: Portes (1977b).

TABLE 36.—PRINCIPAL MEDIUM- AND LONG-TERM FOREIGN BORROWINGS :

[In millions of dollars]

## BONDS AND NOTES

Date	Original amount	Amount outstanding	Final repayment date	Repayment schedule
June 1971.....	25	25	June 30, 1981	Equal installments, 1977 to 1981.
November 1972.....	50	50	Nov. 1, 1987	1 installment.
December 1974.....	40	40	Dec. 10, 1982	4 equal installments, 1979 to 1982.
June 1975.....	60	60	June 30, 1983	5 equal installments, 1979 to 1983.
July 1975.....	41	41	July 1981	1 installment.
March 1976.....	25	25	March 1981	Flexible.

## LOANS AND EUROCREDIT FACILITIES

December 1971.....	50	0	Dec. 7, 1976	5 equal installments, 1974 to 1976.
August 1972.....	20	20	Aug. 20, 1982	In 1 installment.
September 1973.....	40	40	Sept. 13, 1985	4 equal installments, 1982 to 1985.
December 1973.....	50	50	Dec. 12, 1985	In 1 installment.
April 1974.....	50	50	Mar. 26, 1982	4 equal installments, 1979 to 1982.
July 1974.....	100	100	July 10, 1982	4 equal installments, 1979 to 1982.
February 1975.....	100	100	Mar. 19, 1980	5 equal installments, 1978 to 1980.
January 1976.....	150	150	Jan. 19, 1982	7 equal installments, 1979 to 1982.
July 1976.....	150	150	July 26, 1981	6 equal installments, 1979 to 1981.
January 1977.....	150	150	Jan. 31, 1982	3 equal installments, 1981 to 1982.

<sup>1</sup> As of Jan. 31, 1977.

Source: Placing memorandum for Eurocurrency loan, December 1976.

## Yearly repayment schedule

1977	5
1978	45
1979	197
1980	202
1981	298
1982	162
Later	142

Total principal outstanding as at Jan. 31, 1977..... 1, 051

TABLE 37.—4TH AND 5TH FYP (1971-75 AND 1976-80)

[Annual percentage changes]

	4th FYP		5th FYP plan
	Plan	Actual	
National income (NMP) produced.....	5.4-5.7	6.2	5.4-5.7
In industry.....	6.7	7.7	6.7-7.0
In agriculture.....	3.0	3.9	2.7
NMP distributed.....	5.4-5.7	5.2	4.2-4.6
Consumption.....	5.2-5.4	5.1	NA
Investment.....	5.5	5.6	5.9-6.2
Industrial output.....	5.7-6.0	6.4	5.9-6.2
Industrial productivity.....	NA	6.1	6.2
Agricultural output.....	2.8-3.0	3.3	3.2-3.4
Personal consumption.....	NA	5.0	3.9-4.2
Real income per capita.....	4.6-4.9	4.6	3.4-3.7
Real wage.....	3.0-3.3	3.3	2.7-3.0
Consumer price index.....	NA	2.8	3.5
Investment in Socialist sector.....	6.5	8.6	4.6-4.7
Export volume.....	7.1	10.8	8.9-9.2
Ruble relations.....	7.4	11.5	7.3-7.7
Dollar relations.....	6.2	10.1	9.9-10.5
Import volume.....	7.4	9.0	6.3-6.7
Ruble relations.....	8.4	9.7	5.7-6.2
Dollar relations.....	5.2	8.3	6.3-7.0

Note: All magnitudes are in real terms. Industrial output is gross value of output at constant prices, and the corresponding productivity concept is used (output per man). Investment in NMP distributed is total net accumulation. Agricultural production is gross output, and annual growth rates are calculated comparing total output for the 5-year period with that for the preceding 5-year period; the same procedure is used for growth rates of investment in the Socialist sector. The data on actual export and import volumes for the 4th FYP do not accord with those derived by deflating data in table 27 by price changes in table 31, but we cannot explain the discrepancy.

Source: B. Bagota and J. Garam, A nepszadasag fejlesztésének ötödik ötéves terve (The 5th 5-year plan of development of the economy), Budapest, Kossuth, 1976.

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- Abbreviations:  
*SE*—Statiztikai Evkonyv (Statistical Yearbook), Hungarian edition.  
*SY*—Statistical Yearbook, English-Russian edition.  
*SHK*—Statiztikai Havi Kozlemenyei (Monthly Statistical Bulletin).  
*KSE*—Kulkereskedelmi Statiztikai Evkonyv (Foreign Trade Statistical Yearbook).

# THE POLISH ECONOMY IN THE 1970's\*

BY ZBIGNIEW M. FALLENBUCHL\*\*

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### I. FROM THE 1970 RIOTS TO THE 1976 PRICE INCREASE CRISIS

The December 1970 workers' riots were followed by a change in the party and government leadership. A "new political style" appeared.<sup>1</sup> A new development strategy was introduced which, among other things, involved modifications in the Plan for 1971-75. Promises were made about rapid increases in the standard of living. Changes in the system of planning and management of the economy were envisaged.<sup>2</sup> After a period of political and economic stagnation of the late 1960's, the changes seemed very promising, particularly in the economic sphere, and, indeed, the performance of the economy was very impressive in terms of rates of growth of net material product (official data) and gross national product (Western calculations) and their stability (see Table I).

However, by 1975 some economic difficulties had become apparent and in 1976 the prevailing mood of the population changed. Optimism gave place to a widely spread feeling of disappointment and frustration, irritation and, finally, almost the same pessimism as that which had characterized the last years of Gomulka's leadership. The announcement of price increases of a few basic foodstuffs by Premier Piotr Jaroszewicz on June 24, 1976 triggered off strikes and slow-down in production throughout the industry. The country was brought to the brink of new serious riots which were only avoided by the prompt

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<sup>1</sup> For an excellent analysis of recent political developments in Poland see the following articles by two leading authorities on Polish politics: A. Bromke, "Beyond Gomulka Era," *Foreign Affairs*, v. 49, No. 3, 1971, pp. 480-492; "Poland Under Gierek, A New Political Style," "Problems of Communism," v. XXI, No. 5, 1972, pp. 1-19; "Le choix politiques de nouveau dirigeants," *La Pologne de Gierek*, No. 290, 1976, Paris: La documentation française, pp. 13-19; "A New Juncture in Poland," "Problems of Communism," v. XXV, No. 5, 1976; V. C. Chrypinski, "Poland" in A. Bromke and T. Rakowska-Harmstone (eds.), "The Communist States in Disarray 1965-1971," Minneapolis: The University of Minnesota Press, 1972 and "Political Changes under Gierek," in A. Bromke and J. W. Strong (eds.) *Gierek's Poland*, New York: Praeger, pp. 36-51.

<sup>2</sup> An early analysis of the new development strategy can be found in Z. M. Fallenbuchl, "The Strategy of Development and Gierek's Economic Manoeuvre," in Bromke and Strong (eds.), *op. cit.*, pp. 52-70.

TABLE I.—POLAND: COMPARISON OF OFFICIAL NET MATERIAL PRODUCT AND GNP ANNUAL RATES OF GROWTH (CONSTANT PRICES), 1966-75

Year:	Net material product (constant prices—official data)		GNP at constant 1972 dollars
	Domestic	National	
1966.....	7.1	7.4	6.4
1967.....	5.7	4.5	3.9
1968.....	9.0	8.5	6.1
1969.....	2.9	3.5	— .7
1970.....	5.2	5.0	3.7
1971.....	8.1	9.8	8.7
1972.....	10.6	12.7	7.4
1973.....	10.8	14.3	7.7
1974.....	10.4	12.1	6.6
1975.....	9.0	10.9	6.5
Average:			
1966-70.....	5.98	5.78	4.16
1971-75.....	9.78	11.96	7.38
Stability:			
$\sigma/\bar{x}$ :			
1966-70.....	.38	.36	.55
1971-75.....	.12	.14	.12

Sources: DNMP and NNMP: GUS, Rocznik statystyczny, 1976 (Statistical Yearbook 1976), Warsaw, 1976, pp. xxxv; GNP: T. P. Alton, E. M. Bass, G. Lazarcik, G. J. Staller, W. Znayenko, Economic Growth in Eastern Europe 1965-75, New York: L.W. International Financial Research, 1976, p. 13.

Note: DNMP  $\pm$  foreign trade balance = NNMP (national income for distribution in Marxist terminology). GNP calculated according to the Western methodology.

withdrawal of the price increase bill and the promise of a thorough discussion of this matter with various groups in the society.

Ex post, it is easy to find the reasons why this particular decision encountered such reaction. Gomulka had been forced to resign over the price increases in 1970 and the first decision of the new leadership was to cancel them. Moreover, the new leaders wished to capitalize on this action. They kept reminding the population that the prices of basic foodstuffs were constant and this fact was presented as a great achievement and an essential part of the programme for the improvement in the standard of living. After the prolonged period during which the constancy of prices of basic foodstuffs was used in this way for propaganda reasons, a change in the policy had to create a particularly strong impact. As Gomulka's price increases had been introduced just before Christmas, the new leaders concentrated their attention on the proper timing. The end of June seemed safe. The students had left the universities and the workers should be thinking about their summer holidays.

The leaders did not, however, realize that they had waited too long. Instead of introducing the price changes gradually earlier, at the time when considerable increases in personal incomes were taking place and the mood of the population was optimistic about future improvements in the standard of living, the proposed increases in prices were to be effected in one large dose at the time when the new economic difficulties had already become known to the population. Shortages of many consumption goods, above all extremely severe shortages of meat, made obvious to everyone that the progress had not been as great as the leaders were claiming. The population was also aware that the 1976-80 Plan envisaged more moderate increases in personal incomes than those which had taken place in 1971-75 (the planned average annual rate of growth of money incomes of the

population is 5.5 per cent for 1976–80, as compared with 7.7 per cent planned and 13.7 per cent actual rate for 1971–75). In this situation the opposition to the price increases appeared as the defence of the improvements in the standard of living which had been accepted as one of the conditions of the so-called “social contract” between the Party leadership and the population, to which Gierak was referring so often.

Two lessons from the June 1976 price crisis are important for the analysis of the Polish economy in the 1970's. The first lesson is that the workers fully realize their strength and are not prepared to accept any new sacrifices in terms of their standard of living. In this respect the leaders have no freedom of manoeuvre any more. The second lesson is that the leaders have insulated themselves from the population and have very little understanding of its moods. This is perhaps partly the result of the system in which the currently accepted party line is sent from the top down to the local Party and government units and whenever information is requested a reflection of the accepted view goes back to the leaders. In other words, the leaders receive what the lower echelons of bureaucrats know they would like to hear, a typical feature of every bureaucratic machine.

## II: GOMULKA'S LEGACY

In order to appreciate fully the problems with which the new leadership had to cope, it is necessary to examine briefly the long-run performance of the Polish economy since the adoption of the Soviet-type system of planning and management and the introduction of the Six-Year Plan in 1950. According to the official statistics the average annual rates of growth of domestic net material product (the “produced national income” in the Marxist terminology) declined from 9.7 per cent during the first industrialization drive effected under the Stalinist system in 1950–55, to 7.7 per cent during the first three years of Gomulka's leadership in 1956–58, when some bold systemic changes were made; to 5.9 per cent in 1959–67, the years when Gomulka was firmly in power; and finally, to 5.7 per cent in the last three years of his leadership in 1968–70. There was a similar decline in the average rates of growth of industrial product, accumulation, fixed capital investment, total consumption and personal consumption. The average annual increase in per capita total consumption outlays during the last three years of Gomulka's power was 4.2 per cent and that of personal consumption outlays was 3.8 per cent, while the real wage in the socialist sector increased on average by 1.6 per cent (see Table II).

Already by the middle of the 1960's it became clear that the strategy of economic development, which had been followed until then, could not be expected to give satisfactory results in the future.<sup>3</sup> This was the so-called strategy of extensive development which in Poland, as in other East European countries, followed closely the Soviet example.<sup>4</sup> The process of growth depended on the increases in the

<sup>3</sup> A. Karpiński and J. Pajestka, “Ogólne zagadnienia polityki rozwoju ekonomicznego” (General Problems of the Policy of Economic Development), in *Polityka gospodarcza Polski Ludowej* (The Economic Policy of People's Poland), Part I (3rd. ed.), Warsaw 1965, pp. 41–43.

<sup>4</sup> J. Górski and M. Kabaj, *Polityka gospodarcza PRL* (The Economic Policy of the Polish People's Republic), Warsaw 1974, p. 18; Z. M. Fallenhuichl, “The Communist Pattern of Industrialization,” *Soviet Studies*, v. XXI, No. 4, 1970, pp. 458–484.

TABLE II.—OVERALL PERFORMANCE OF THE POLISH ECONOMY 1950-75 (OFFICIAL DATA, CONSTANT PRICES, AVERAGE RATES OF GROWTH IN PERCENTAGES)

Period:	Domestic net material product	Net Industrial product	National net material product	Accumulation	Fixed capital investment	Total consumption outlays	Personal consumption outlays	Per capita total consumption outlays	Per capita personal consumption outlays	Average real wage—the Socialist sector
1950-55.....	9.7	12.2	9.8	10.4	15.4	8.3	8.1	6.2	6.0	NA
1956-58.....	7.7	9.3	8.2	13.1	7.6	7.1	6.9	5.3	5.1	7.7
1959-67.....	5.9	8.4	5.7	7.7	8.4	4.8	4.4	3.7	3.2	1.9
1968-70.....	5.7	7.6	5.7	3.2	7.0	4.6	4.2	4.2	3.8	1.62
1971-75.....	9.8	10.8	12.0	19.0	19.6	8.7	8.5	7.7	7.5	7.2

NOTES

1950-55: The Stalinist system.  
 1956-58: Experiments with market socialism (the 1st 3 years of Gomulka's leadership).  
 1959-67: The modified Soviet-type system (Gomulka firmly in power).  
 1968-70: The last 3 years of Gomulka's leadership.

1971-75: The 1st 5 years of Gierek's leadership.  
 Net material product±foreign trade balance=domestic net material product.  
 Sources: GUS, Dochod narodowy, 1973 (national Income, 1973), Warsaw, 1973, pp. 6-23; GUS, Rocznik statystyczny, 1976 (Statistical Yearbook 1976), Warsaw, 1976, pp. xxxiv-xxxvii, 70, 74.

quantity of inputs rather than on the increases in their productivity.<sup>5</sup> Large increases in employment outside agriculture were obtained by increasing the labour participation ratios, particularly that of women, internal migration from rural to urban areas and from small towns to the centres of industrial activity, and by a very high rate of commuting from the rural areas of the so-called double-occupation group (farmer-worker).<sup>6</sup> Large directly productive investments in industry were secured by high ratios of accumulation in the net material product, i.e. by allowing only moderate increases in consumption, and by severe restrictions imposed on investment in housing and the socio-economic infrastructure.<sup>7</sup> The increases in labour productivity were achieved as the result of heavy investment outlays. The ratio of capital to labour was increasing and the productivity of capital was declining (see Table III). The ratio of the rates of growth of net material product to the rates of growth of investment declined between 1961-65 and 1966-70 in the economy as a whole and in all main sectors, except in construction and commerce (see Table IV).

The system of economic planning and management was geared to this strategy. After a pioneering theoretical discussion and some experiments with certain features of market socialism in 1956-58, there was a return to the traditional Soviet model with only relatively few modifications, which included, above all, individual agriculture (since the decollectivization which took place in 1956). This system, highly centralized and depending mainly on administrative commands, could enforce a high degree of the mobilization of resources and their

TABLE III.—“INTENSIVE FACTORS OF GROWTH” CALCULATED BY AN APPROXIMATE METHOD USED IN POLAND (OFFICIAL DATA)

	Rates of growth (percent)			Relative importance of “intensive factors”		
	Net material product (1)	Net material product per 1 employee (2)	Fixed capital per 1 employee (3)	“Effectiveness” of fixed capital (2-3) (4)	Effectiveness of fixed capital as percentage of net material product per employee (4/2×100)	Effectiveness of fixed capital as percentage of net material product (4/1×100)
Years:						
1951-55.....	8.6	7.0	1.8	5.2	74.3	60.5
1956-60.....	6.8	5.9	3.2	2.7	45.8	39.7
1961-65.....	6.4	5.0	3.2	1.8	36.0	28.1
1966-70.....	5.8	3.5	4.3	-0.8	-22.9	-13.8
1971.....	8.1	6.8	4.9	1.9	27.9	23.4
1972.....	10.6	8.1	4.2	3.2	39.5	30.2
1973.....	10.8	8.4	5.3	3.1	36.9	28.7
1974.....	10.4	7.4	6.3	1.1	14.9	10.6
1975.....	9.0	7.5	8.6	-1.1	-14.7	-12.2
1971-75.....	9.8	7.6	5.9	1.6	20.9	16.1

Source: 1951-70, M. Nasilowski, *Ekonomia polityczne socjalizmu* (Political Economy of Socialism), Warsaw, 1975, pp. 249-250; 1971-75, GUS, *Rocznik statystyczny*, 1976, p. 68.

<sup>5</sup> J. Kleer, *Wzrost intensywny w krajach socjalistycznych* (The Intensive Pattern of Development in the Socialist Countries), Warsaw 1974, pp. 59-136; L. Zacher, *Problemy strategii rozwoju gospodarczego Polski Ludowej* (Problems of the Strategy of Economic Development of People's Poland) Warsaw 1974, pp. 83-148, Gorski and Kabaj, *op. cit.*, pp. 22-31.

<sup>6</sup> Z. M. Fallenbuchl, “Internal Migration and Economic Development Under Socialism: the Case of Poland,” in A. Brown and E. Neuberger (eds.), “Internal Migration: A Comparative Perspective,” New York: Academic Press, forthcoming.

<sup>7</sup> Z. M. Fallenbuchl, “Some Structural Aspects of the Soviet-type Investment Policy,” *Soviet Studies*, v. XVI, No. 4, 1965, pp. 432-447.

TABLE IV.—AVERAGE RATES OF GROWTH OF DOMESTIC NET MATERIAL PRODUCT AND INVESTMENT IN FIXED CAPITAL (CONSTANT 1971 PRICES) IN THE NATIONAL ECONOMY, OFFICIAL DATA

Sector	1961-65	1966-70	1971-75	1971	1972	1973	1974	1975
<b>Total material:</b>								
Net material product.....	6.2	6.0	9.8	8.1	10.6	10.8	10.4	9.0
Investment.....	6.8	8.2	18.6	7.5	23.6	25.0	22.5	14.2
Net material product/investment....	.91	.73	.53					
<b>Industry:</b>								
Net material product.....	8.9	7.8	10.8	8.5	10.4	11.6	12.0	11.4
Investment.....	8.0	7.7	22.2	10.4	34.6	26.7	22.2	17.0
Net material product/investment....	1.11	1.01	.49					
<b>Construction:</b>								
Net material product.....	5.6	8.0	13.3	-5.0	21.4	16.3	13.7	11.1
Investment.....	11.2	11.6	30.4	-5	38.5	79.6	26.9	7.4
Net material product/investment....	.50	.69	.44					
<b>Agriculture:</b>								
Net material product.....	2.1	-1.6	-6	8.8	4.7	2.0	-5.2	-11.7
Investment.....	12.7	8.0	14.2	4.4	14.9	17.2	18.0	16.5
Net material product/investment....	.16	-.2	0					
<b>Forestry:</b>								
Net material product.....	.6	-.1	4.0	-.2	-1.7	7.1	8.2	7.2
Investment.....	3.4	10.3	11.9	21.6	12.7	10.9	15.7	-1.4
Net material product/investment....	.18	0	.34					
<b>Transportation and communications:</b>								
Net material product.....	7.4	6.3	12.6	12.0	12.5	9.0	16.0	13.8
Investment.....	8.7	11.1	18.2	16.0	6.9	13.9	34.1	20.3
Net material product/investment....	.85	.57	.69					
<b>Commerce:</b>								
Net material product.....	4.7	6.2	11.1	9.3	9.0	14.6	13.5	11.6
Investment.....	7.7	2.8	18.8	-1.2	38.6	38.6	24.4	-6.5
Net material product/investment....	.61	2.21	.59					
<b>Other production:</b>								
Net material product.....	7.3	7.1	14.1	1.0	13.5	21.7	19.2	16.5
Investment.....	.9	8.0	14.1	6.7	14.7	21.1	17.3	10.5
Net material product/investment....	8.11	.89	1.00					

Source: GUS Rocznik statystyczny 1973, p. 139. GUS Rocznik statystyczny 1976, p. 124, 70. GUS Rocznik statystyczny inwestycji i srodkow trwalych, (statistical Yearbook of Investment and Fixed Assets), Warsaw 1972, pp. 8, 9.

concentration in a few selected areas, but it was not able to ensure their efficient use.<sup>8</sup>

As the result of the interaction of this development strategy and the system of planning and management a certain industrial structure had been created which was adjusted to the extensive pattern of development (a high proportion of producers' goods in total output) and a relatively limited role of international trade.<sup>9</sup> This industrial structure, which had been created during the 1950's, was rapidly becoming obsolete. It had an adverse effect on the expansion of exports and on profitability of foreign trade. It hampered the possibility of supplying the domestic market with consumption goods and maintaining equilibrium in that market. It was not conducive to the generation of technological innovations and to the utilization of the results of research and development.<sup>10</sup>

Although attempts were made in the 1960's to change the structure in order to bring it closer to the structure of the advanced countries in Western Europe, no success was achieved because "the administrative system of centralized management, which was based on the directives of the annual plans, was consolidating the existing structure,

<sup>8</sup> Z. M. Fallenbuchl, "How Does the Soviet Economy Function Without a Free Market?" *The Queen's Quarterly*, v. LXX, No. 4, 1964 reprinted in M. Bornstein and D. R. Fufeld (eds.), "The Soviet Economy: A Book of Readings," Homewood: Irwin, rev. ed. 1966, 3rd ed. 1970, and 4th ed. 1974.

<sup>9</sup> Z. M. Fallenbuchl, "Industrial Structure and the Intensive Pattern of Development in Poland," *Jahrbuch der Wirtschaft Osteuropas* (Yearbook of East-European Economics), v. 4, 1973; M. Nasilowski, "Systemy zarzadzania gospodarka narodowa a postep techniczny," (The Systems of Management of the National Economy and Technological Progress," in L. Gilejko et al., *Rewolucja naukowo-techniczna jako czynnik rozwoju* (The Scientific-Technological Revolution as a Factor of Development), Warsaw 1974, pp. 212-210.

<sup>10</sup> M. Nasilowski, op. cit., pp. 214-215.

petrifying the extensive methods and preventing full utilization of the created productive capacity." <sup>11</sup>

The situation became difficult because in Poland, as in other East European countries at that time, a vicious circle appeared. <sup>12</sup> In order to effect a switch from the extensive to the intensive pattern of growth, it was necessary to reform the system of management and planning, to introduce more realistic prices, and more effective incentives. The economic reforms require, however, a reduction in the investment drive in order to remove, or at least to reduce, the undesirable pressures which are usually associated with very high levels of investment. In addition, it is necessary to prepare some reserves, to reduce the degree to which the market is a sellers' market and to secure sufficient supplies of consumption goods, without which even the theoretically best system of incentives becomes useless.

At the same time it was, however, impossible to introduce an intensive pattern of growth without some changes in the inherited industrial structure, which was geared to the extensive pattern and created a serious obstacle for the change to the intensive strategy. The relative importance of those branches of industry in which increases in labour productivity could only be achieved at the cost of heavy investment had to be reduced. The industrial structure demanded adjustment to the requirements of international specialization and trade in order to take full advantage of the economies of scale and specialization. Those enterprises and industries which were making losses persistently and were subsidized at the expense of the rest of the economy, had to be reorganized or eliminated. <sup>13</sup> Old and inefficient equipment and machines had to be replaced and modern processes introduced. <sup>14</sup>

A reconstruction of this nature usually requires a large volume of investment. In order to effect it within a relatively short period of time and on a significant scale, it was necessary to increase the share of accumulation in national income. A new investment drive would, however, be incompatible with the requirement of reducing the pressures within the economy and increasing consumption, without which a successful reform could not be introduced. Hence the vicious circle. <sup>15</sup>

Gomulka's group gave priority to the structural changes, to be effected as the result of a new investment drive. The Third Five-Year Plan (1966-70) was designed for this purpose. The impact of this policy, and of the vicious circle itself, could have been mitigated by giving priority to the expansion of industries with relatively low capital intensity. Although there was a decline in the share of "fuel and power" group of industries from 34.4 per cent in 1961-65 to 26.6 per cent in 1966-70, the majority of industrial investment funds were

<sup>11</sup> M. Nasilowski, *Analiza czynników rozwoju gospodarczego PRL (An Analysis of the Sources of Economic Growth in the People's Republic of Poland)*, Warsaw 1974, p. 207.

<sup>12</sup> J. Kleer, *Przez sześć krajów (Across Six Countries)*, Warsaw 1967, p. 167.

<sup>13</sup> J. Kleer, "Wybierać to znaczy rozwijać i ograniczać" (To Choose Means to Develop and to Restrict), *Polityka*, No. 19, 1969; G. U.S., *Struktura gospodarki narodowej (The Structure of the National Economy)*, Warsaw 1969, pp. 122-123.

<sup>14</sup> M. Nasilowski, "Analiza wzrostu gospodarczego Polski Ludowej w latach 1946-1972," (An Analysis of the Economic Growth of People's Poland in 1946-1972), in M. Nasilowski (ed.), *Ekonomia polityczna socjalizmu (The Political Economy of Socialism)*, Warsaw 1975, p. 247.

<sup>15</sup> Z. M. Fallenbuchl, "From the Extensive to the Intensive Strategy of Economic Development in the Soviet Union and Eastern Europe," a paper presented at the Annual Meeting of the Michigan Academy of Arts, Sciences and Letters, April 1970, Working Papers, The Department of Economics, University of Windsor (mimeographed) and "The Strategy of Development and Gierek's Economic Manoeuvre," loc. cit.

still allocated to the relatively capital intensive industries. Some 56.2 per cent of these funds were allocated to the industries with the capital-labour ratio of 300,000 zlotys in 1970, including 16.6 per cent to those with the ratio above 990,000 zlotys. These ratios were clearly above the average of 227,900 zlotys for the total industry (see Table V). Instead of a switch to the intensive pattern which had been envisaged by the Plan,<sup>16</sup> there was an even greater dependence on the extensive factors and a further decline in the rates of growth. (See Tables I, II, and III). The Fifth Party Congress, which was held in 1968, attempted to find the ways and means of breaking away from the vicious circle. Again, the priority was given to structural changes, although some modifications of the system of planning and management were to take place.<sup>17</sup> The main stress was put on "selective development", i.e. on the development of certain selected branches of industry and groups of commodities in which Poland was expected to become one of the major producers and the exports were to reach the highest world standards as to the quality and technological sophistication.

Unfortunately, an excessively large number of industries and enterprises were selected and designated as specializing in production for export.<sup>18</sup> Moreover, the selection was made on the basis of the decisions of the central authorities without the benefit of properly operating signals of the international market and correctly calculated opportunity costs. The existing system of planning and management, together with price distortions, made a fully rational choice impossible. In addition, the possibility of restricting consumption in order to increase the investment drive was over-estimated. Instead of an improvement, there was a further reduction in the rates of growth of net material product and industrial product in the last three years of Gomulka's leadership (see Table I). With lower rates of growth and increased capital intensity the rates of accumulation were raised to 28.5 percent of the national net material product (the "allocated national income" in the Marxist terminology) in 1968, 27.3 percent in 1969 and 27.9 percent in 1970 (see Table XI). In official statistics the accumulation ratios are downward biased because of relatively low prices of investment goods in comparison with prices of consumption goods. The actual rates of accumulation must have been even higher. As the national net material product was considerably below the domestic net material product in those three years (26.1 billion zlotys in 1968, 22.6 billion in 1969 and 25.3 billion in 1970, or 3.57 percent, 3.00 percent and 3.20 percent of the level of domestic net material product), i.e. there was an excess of exports over imports, the size of the residual which was available for consumption was severely limited. These accumulation rates, which were even higher than those during the Stalinist industrialization drive (28.1 percent in 1951, 23.3 percent in 1952 and 22.5 percent in 1953), again exceeded the optimum rate and the share of net material product which was left for consumption

<sup>16</sup> Karpinski and Pajestka, *op. cit.*, pp. 42-46.

<sup>17</sup> "Problemy gospodarcze w tezach na V Zjazd PRZPR," (The Economic Theses for the Fifth Congress of the Polish United Workers Party), *Gospodarka planowa*, No. 10, 1968, pp. 1-4.

<sup>18</sup> "Zakłady przemysłowe i branże specjalizujące się w produkcji eksportowej," *Handel zagraniczny*, No. 9, 1968, pp. 335-336.

TABLE V.—ALLOCATION OF INDUSTRIAL INVESTMENT (CONSTANT 1971 PRICES)

Investment	Share of total industrial investment (percent)			Productivity of capital			Capital-labour ratio			Capital stock change 1970-75 (percent)	Labour productivity	Production consumption
	1961-65	1966-70	1971-75	1970	1975	Change (percent)	1970	1975	Change (percent)			
Fuel and power.....	34.4	26.6	21.9	214	201	-6.1	577.7	776.6	34.4	39.4	26.2	32.6
Coal.....	15.3	10.0	7.6	318	293	-7.9	305.1	372.9	22.2	21.9	12.3	15.1
Other fuels.....	7.0	6.5	5.6	282	306	8.5	992.5	1,328.2	33.8	44.0	45.2	56.2
Power.....	12.1	10.1	8.7	92	95	3.3	1,683.6	2,237.0	32.9	53.4	36.9	59.6
Metallurgical.....	11.7	11.6	13.3	275	298	8.4	430.6	584.1	35.6	60.6	47.1	73.1
Iron and steel.....	8.3	6.6	8.7	262	278	6.1	415.1	547.0	31.8	49.7	40.1	56.0
Nonferrous.....	3.4	5.0	4.6	314	341	8.6	485.0	687.6	41.8	91.6	54.4	116.1
Electrical and mechanical.....	15.3	19.1	23.5	617	678	9.9	130.3	201.2	54.4	90.8	69.5	103.3
Metal.....	3.4	4.1	5.2	674	641	-4.9	112.0	184.9	65.1	103.0	56.9	84.4
Machines.....	4.5	6.2	6.1	516	566	9.7	145.1	230.4	58.8	94.2	74.3	105.5
Precision.....	3	6	8	987	1,284	30.1	77.7	121.0	.....	119.2	102.8	177.1
Transport equipment.....	4.5	5.6	7.5	587	654	11.4	147.7	225.1	.....	77.3	69.7	93.2
Electricals and electronics.....	2.6	2.6	3.9	775	887	14.5	111.2	160.9	.....	94.4	65.5	118.6

Chemical.....	12.5	15.9	10.5	303	393	29.7	374.2	511.3	36.6	54.2	77.4	101.8
Mineral.....	7.7	7.1	7.2	247	273	10.5	245.7	332.4	35.3	47.3	49.5	60.0
Building materials.....	6.4	6.0	6.3	223	235	5.4	282.6	393.4	.....	46.7	46.7	51.5
Glass.....	.8	.8	.5	449	513	14.3	131.6	182.7	.....	61.1	58.4	81.5
Ceramical.....	.5	.3	.3	240	358	49.2	179.4	198.3	.....	32.7	65.1	100.7
Wood and paper.....	3.7	3.8	3.9	442	464	5.0	157.3	214.8	36.6	53.4	43.3	6.03
Wood.....	1.6	1.7	2.6	682	678	-.6	94.0	140.9	.....	73.5	48.9	67.8
Paper.....	2.1	2.1	1.4	234	238	1.7	380.3	484.1	.....	35.9	29.6	41.2
Light.....	4.6	5.9	7.6	1,011	999	-1.2	83.2	123.6	48.6	72.3	47.0	66.6
Textile.....	3.8	4.6	6.2	878	869	-1.0	114.6	175.4	.....	72.1	51.5	66.2
Clothing.....	.3	.5	.6	2,106	2,189	3.9	25.7	36.2	.....	77.7	46.4	78.3
Leather.....	.5	.8	.8	1,268	1,163	-8.3	53.4	79.5	.....	70.7	36.5	56.9
Food.....	8.7	8.7	10.6	646	543	-15.9	211.6	285.0	34.7	65.6	13.1	33.8
Other branches of industry.....	1.4	1.3	1.5	.....	.....	.....	.....	.....	.....	.....	.....	.....
Feeds.....	.5	.3	.5	.....	.....	.....	.....	.....	.....	.....	.....	.....
Poligraphical.....	.5	.6	.7	.....	.....	.....	.....	.....	.....	.....	.....	.....
Other.....	.4	.4	.3	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total.....	100.0	100.0	100.0	413	442	7.0	227.9	312.2	37.0	59.0	46.7	68.5

Source: GUS, Rocznik statystyczny przemysłu 1973, (Statistical Yearbook of Industry), Warsaw 1973, pp. 266, 267, 283; Rocznik statystyczny 1966, p. 171.

declined to a politically dangerous level. There was a repetition of the situation which had taken place in the first half of the 1950's.<sup>19</sup>

Most of the difficulties which appeared in the 1960's had their roots in the policies of the early 1950's. Gomulka was not responsible for them. He, however, delayed coping with them. This was particularly clearly seen in the case of systemic reforms as he withdrew the changes which had been introduced in the early years of his leadership. The same happened, however, with the modernization and restructuring of the economy and with opening it up. All these tasks were not dealt with and the solution of the problems was simply shifted to the 1970's. This was Gomulka's legacy.

### III: GIEREK'S NEW ECONOMIC STRATEGY

At first it looked that the riots in December 1970 destroyed the possibility of breaking away from the vicious circle in the moment when the time was running short.<sup>20</sup>

The new leadership introduced immediately some measures which could show rapid improvements in the standard of living. The increase in the prices of food was canceled, while the reduction in the prices of consumption goods of the industrial origin was maintained. The official index of "goods and services bought by the population" increased by only 0.4 percent in 1971 and recorded no increase in 1972. This was made possible, despite considerable increases in the prices of foods in the market places (7.6 and 4.0 percent) because of relatively limited increases in the prices of food in socialist trade and restaurants, etc. in 1971 and a decline of these two sets of prices in 1972, and because of a reduction in non-food consumption goods by -2.8 and -0.1 percent respectively (see Table VI).

The unpopular new system of incentive bonuses was withdrawn. The wages and pension for the lowest income brackets were increased. The official index of real monthly wage in the socialist economy (without apprentices) increased by 5.7 percent in 1971 and 6.4 percent in 1972 (see Table VII). The proportion of average pensions and welfare payments to the average wage in the socialist sector increased to 51.5 percent (the highest proportion in the post-war period) but declined to 50.2 percent in 1972 as the result of a rapid increase in wages (see Table VI).

In agriculture the prices for obligatory deliveries and for contracted purchases were increased in 1971 (see Table VIII) and obligatory deliveries abolished as from January 1st, 1972. National health insurance was extended to cover all agricultural population, financial contributions by farmers were reduced and the progression in taxes, which had been heavily biased against larger farms, was eliminated. The ratio of prices for the products sold and for the goods and services bought by the agricultural population improved by 10.2 percent in 1971 and a further 3.8 percent in 1972 (see Table IX).

As the result of all these measures net real incomes of the population increased by 9.2 percent in 1971 and 12.3 percent in 1972 and

<sup>19</sup> On the concept of optimum rate of accumulation and the evidence of excessive rates in the early 1950's in Poland see Z. M. Fallenbucht, "Investment Policy for Economic Development: Some Lessons of the Communist Experience," *The Canadian Journal of Economics and Political Science*, v. XXIX, No. 1, 1963, pp. 26-39.

<sup>20</sup> Fallenbucht, "The Strategy of Development \* \* \*."

TABLE VI.—OFFICIAL PRICE INDICES OF "GOODS AND SERVICES BOUGHT BY THE POPULATION" (ANNUAL INCREASES, 5-YR AVERAGES AND COEFFICIENTS OF VARIATION FOR 5-YR PERIODS)

Index	Annual increases															Averages ( $\bar{x}$ )				Coefficient of variation ( $\sigma/\bar{x}$ )			
	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1961-65	1966-70	1971-75	1961-75	1961-65	1966-70	1971-75	1961-75
	Goods and services bought by the population.....	0.8	2.5	0.9	1.2	0.9	1.2	1.5	1.5	1.3	1.1	0.4	0	2.7	6.6	2.9	1.26	1.32	2.52	-----	0.56	0.14	1.04
Consumption goods.....	.6	2.6	.4	1.1	.7	0	1.4	1.5	1.5	1.2	-.2	-.1	3.0	7.2	3.2	1.08	1.12	2.66	-----	.82	.57	1.12	-----
Foodstuffs.....	1.2	4.5	-1.6	1.2	1.3	-.9	1.3	2.6	2.7	2.2	2.5	-.1	1.1	6.2	.5	1.32	1.58	2.04	-----	1.64	.94	1.23	-----
Without alcoholic beverages:																							
Socialist trade.....	1.3	2.8	-.2	1.6	.6	-.3	.5	2.4	1.7	2.7	1.5	-.8	1.0	1.6	.2	1.22	1.52	.7	-----	.92	.72	1.43	-----
Restaurants, et cetera.....	2.8	4.6	2.2	3.4	2.3	0	1.6	3.5	2.4	5.1	1.6	-1.9	.1	17.4	1.2	3.06	2.52	3.68	-----	.32	.76	2.12	-----
Markets.....	-.7	13.6	-1.3	-.6	4.0	-4.7	4.8	3.0	7.6	-2.4	7.6	4.0	2.1	18.2	1.4	3.4	2.6	6.66	-----	1.77	1.76	1.03	-----
Nonfood consumption goods.....	-.1	.2	3.1	1.1	0	1.3	1.4	0	.1	-.1	-2.8	-.1	5.8	3.6	6.3	.86	.54	3.12	-----	1.56	1.37	1.16	-----
Consumption services.....	1.2	.8	5.2	1.7	2.6	10.2	2.9	2.9	.1	.5	.3	.6	1.9	6.5	1.7	2.3	3.32	2.2	-----	.76	1.22	1.14	-----
Nonconsumption goods.....	2.0	3.4	.5	.4	.6	1.8	.5	.3	.1	.8	5.7	.1	1.0	2.1	1.0	1.38	.7	1.98	-----	.94	.96	1.11	-----
Nonconsumption services.....	2.6	1.8	2.5	1.7	.3	.5	2.7	2.2	1.1	1.9	1.1	.9	3.2	5.3	5.2	1.78	1.68	31.4	-----	.52	.52	.68	-----

Sources: G.U.S., "Rocznik statystyczny 1971", p. 401 and 1976, p. 389.

TABLE VII.—OFFICIAL INDICES OF AVERAGE MONTHLY MONEY AND REAL NET WAGE IN THE SOCIALIST SECTOR (WITHOUT APPRENTICES) AND REAL INCOME OF AGRICULTURAL POPULATION

	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975
<b>Index (annual increases):</b>																				
Money wage.....	10.9	11.4	5.4	7.8	3.2	4.4	3.6	4.8	3.1	2.6	4.5	4.0	3.8	3.2	2.9	5.5	6.4	11.5	13.8	11.8
Cost of living.....	-6	5.6	2.0	2.6	4.8	1.7	3.2	2.3	1.0	2.6	1.2	1.5	2.5	1.5	1.2	-2	0	2.6	6.8	3.0
Real wage.....	11.6	8.3	3.3	5.1	-1.5	2.6	.4	2.4	2.1	0	3.3	2.5	1.3	1.7	1.7	5.7	6.4	8.7	6.6	8.5
Real income of agricultural population.....	15.1	5.5	1.9	-2.4	5.4	11.2	-14.8	10.7	2.0	8.6	3.7	-3	8.3	-15.8	2.2	15.4	15.0	4.0	-5.5	-5.1
<b>In zlot:</b>																				
Average monthly wage (without apprentice).....	1,118	1,279	1,348	1,453	1,560	1,625	1,680	1,763	1,816	1,867	1,934	2,016	2,016	2,174	2,235	2,358	2,509	2,798	3,185	3,562
Average monthly pension and rent.....	226	314	443	591	620	647	673	705	739	780	809	847	952	1,056	1,144	1,215	1,260	1,304	1,389	1,545
Average pension and welfare payment as percent of average wage.....	20.2	24.6	32.9	40.7	39.7	39.8	40.1	40.0	40.7	41.8	41.8	42.0	45.2	48.6	51.2	51.5	50.2	46.6	43.6	43.3

Source: GUS, Rocznik statystyczny, 1976, pp. xxxvi-xxxvii, xlii-xliii.

TABLE VIII.—PRICES FOR (A) OBLIGATORY DELIVERIES OF AGRICULTURAL PRODUCTS; (B) ABOVE THE QUOTA-CONTRACTED; (C) ABOVE THE QUOTA-NONCONTRACTED; (D) FREE MARKET SALES (ZLOTY)

Commodity	1960	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975
Wheat (100 kg): (a)-----	198	229	230	231	232	238	235	240	-----	-----	-----	-----
(b)-----	384	384	392	390	395	400	396	407	396	407	395	403
(c)-----	312	355	369	381	369	376	385	387	392	406	391	395
(d)-----	373	442	428	448	450	448	461	467	461	468	480	494
Rye (100 kg): (a)-----	143	176	182	184	183	186	184	188	-----	-----	-----	-----
(b)-----	221	282	296	295	297	300	299	304	297	304	296	301
(c)-----	274	347	326	356	354	347	363	370	296	301	298	299
(d)-----	207	236	233	225	226	218	211	245	355	356	366	379
Barley (100 kg): (a)-----	330	378	377	367	374	375	364	387	376	381	370	374
(b)-----	278	309	300	320	315	308	297	338	359	363	353	353
(c)-----	299	373	351	378	376	376	382	390	387	393	403	414
(d)-----	117	151	153	153	154	158	153	160	-----	-----	-----	-----
Oats (100 kg): (a)-----	203	268	276	279	280	284	281	285	284	291	289	291
(b)-----	287	365	336	362	359	360	362	366	281	287	282	286
(c)-----	46	52	53	52	53	56	54	68	361	368	377	386
(d)-----	90	102	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Potatoes (100 kg): (a)-----	86	101	100	102	100	120	105	128	134	141	142	153
(b)-----	118	118	107	114	107	134	119	142	123	126	129	137
(c)-----	3.73	4.21	4.31	4.19	4.20	4.14	4.22	4.65	150	155	177	183
(d)-----	14.09	14.69	14.97	15.00	14.99	14.98	15.06	16.70	-----	-----	-----	-----
Beef (1 kg live weight): (a)-----	10.81	10.93	-----	-----	-----	-----	-----	-----	18.21	19.77	22.85	23.57
(b)-----	8.95	9.62	9.60	9.71	10.30	10.02	12.19	12.54	13.57	14.12	17.19	17.19
(c)-----	5.46	6.39	6.62	6.74	10.30	10.02	NA	NA	NA	NA	NA	NA
(d)-----	12.42	15.75	16.25	16.36	20.50	17.26	17.60	18.68	NA	NA	NA	NA
Veal (1 kg live weight): (a)-----	13.07	14.69	14.81	14.95	17.21	17.26	17.60	18.68	19.39	23.37	24.52	24.37
(b)-----	8.63	9.47	9.58	9.77	16.45	16.69	18	20	21	23	NA	NA
(c)-----	18.46	20.02	20.10	20.20	20.42	20.69	22.07	27.71	27.88	27.94	28.08	29.42
(d)-----	16.69	17.96	17.74	17.89	18.15	18.00	19.22	24.50	25.51	25.83	26.40	28.61
Pork (1 kg live weight): (a)-----	19.70	21.85	21.63	21.77	22.64	22.60	23.70	28.01	29.02	29.27	29.69	30.71
(b)-----	10.42	12.14	12.07	12.03	12.14	12.30	12.30	13.01	-----	-----	-----	-----
(c)-----	22.08	23.38	23.55	23.76	24.01	24.18	26.02	29.62	30.04	30.34	30.66	32.05
(d)-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

Note: Obligatory deliveries were abolished as from Jan. 1, 1972. After that date (b) contracted and (c) noncontracted purchases by the State agencies.

Sources: GUS, Rocznik statystyczny rolnictwa, 1971, pp. 342, 344. GUS, Rocznik statystyczny, 1972, pp. 384, 387; 1976, p. 402.

TABLE IX.—OFFICIAL INDICES OF PRICES OF THE PRODUCTS SOLD AND GOODS AND SERVICES BOUGHT BY THE AGRICULTURAL POPULATION (ANNUAL RATES OF GROWTH)

Index	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975
Prices of products sold by the agricultural population.....	2.7	-2.0	2.0	0.5	2.9	NA	11.5	4.0	3.2	9.0	4.6
Prices of goods and services bought by the agricultural population.....	0	.6	.5	.4	.5	NA	1.2	.2	1.4	5.3	NA
Relation between the 2 sets of prices (index).....	2.7	-2.6	1.5	.1	2.3	NA	10.2	3.8	1.8	3.5	NA

Sources: GUS, Rocznik statystyczny rolnictwa, 1971 (Statistical Yearbook of Agriculture, 1971), Warsaw 1971, p. 350, GUS, Rocznik statystyczny, 1975, p. 403.

net real incomes of agricultural population by 9.3 percent and 9.9 percent (see Table X). Improvements in the standard of living, together with a very dynamic political activity and appeals to national interest, patriotic duty and self-interest of various groups, stabilized the political situation.

The second line of measures included the formulation of a new development strategy and the appointment of a "Joint Party-State Commission on the Modernization of the Functioning of the System of the Economy and the State." The basic premise of the new strategy was that in order to escape from the vicious circle both investment and consumption must grow at the same time. Investments must be sufficiently large to restructure the economy, to modernize its productive capacity and to build a viable export sector. This task could, however, again be frustrated by the lack of incentives. Significant increases in consumption were, therefore, needed to stimulate increases in labour productivity and to secure support from the population for the new leadership. This policy was possible only if considerable import of capital could be secured. As large borrowing of capital could only be effected from the West, a rapid expansion of import from that direction was implied.

The usual negative difference between the national net material product (NNMP or the "national income for distribution" in Marxist terminology) and the domestic net material product (DNMP or the "produced national income") was reduced from -25.3 billion zlotys in 1970 to -13.6 billion in 1971, or from 3.20 percent to 1.59 percent of DNMP. The difference between the two represents the balance of trade. When there is an excess of exports over imports NNMP is smaller than DNMP, i.e. there is a smaller volume of goods for allocation into consumption and investment than that which has been produced within the country. When imports exceed exports it is possible to allocate for consumption and investment a larger volume of goods than that which has been produced.

The difference became positive in 1972 and it grew from 2.6 billion zloty (0.27 percent of DNMP) in that year to 35.5 billion (3.39 percent) in 1973, 56.7 billion (4.90 percent) in 1974 and 85.0 billion (6.74 percent) in 1975 (see Table XI). In constant 1971 prices imports increased by 15.5 percent per year on average between 1971-75, as compared with the average rates of growth of 10.0 percent in 1961-65 and 9.0 percent in 1966-70. The average rate of growth of export in constant prices was much more moderate (10.8 percent) and was actually lower than that in 1961-65 (11.2 percent) and slightly more than 1 percent point higher than in 1966-70 (9.5 percent) (see Table XII).

TABLE X.—RATES OF GROWTH OF NET NOMINAL AND REAL INCOMES OF POPULATION, TOTAL AND AGRICULTURAL, 1966-75 (OFFICIAL DATA)

Type of income	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1966-70	1971-75
Net nominal incomes: total population:												
From work.....	8.8	8.2	8.4	7.1	4.7	9.0	12.3	15.1	17.6	14.2	7.5	13.6
From social welfare transfers.....	5.8	7.2	11.9	13.3	9.9	16.6	8.6	11.1	13.7	21.4	9.7	14.2
From all sources.....	8.4	8.1	8.8	7.9	5.5	10.1	11.7	14.5	17.0	15.3	7.8	13.7
Agriculture population <sup>1</sup> .....	4.9	2.2	2.5	-3.5	0	15.5	11.7	7.0	5.5	3.7	1.2	8.6
Consumption on the farm (included in the above).....	1.5	.9	3.8	2.7	.9	10.9	-3.3	.5	2.2	.9	1.9	2.2
Net real incomes: Total population:												
From work.....	7.5	6.6	5.8	5.5	3.5	9.2	12.3	12.2	10.1	10.9	5.8	10.9
From social welfare transfers.....						16.8	8.6	8.3	6.5	17.9	8.0	11.5
From all sources.....	7.1	6.5	6.1	6.3	4.2	10.3	11.7	11.6	9.6	11.9	6.1	11.0
Agriculture population <sup>1</sup> .....	4.9	.6	1.5	-1.5	-.8	9.3	9.9	3.6	-1.4	.3	.2	4.2
Consumption on the farm (included in the above).....	2.2	-1.7	1.9	.2	1.2	-2.9	-7.7	-2.0	-3.5	-1.7	.7	-3.6

<sup>1</sup> Individual and cooperative farmers. There are incomes allocated for consumption (including consumption on the farm) and nonproductive investment. They differ from total real incomes which are presented in table VII.

Source: GUS Rocznik statystyczny, 1972, pp. 535-536; 1976, p. 80.

TABLE XI.—DOMESTIC AND NATIONAL NET MATERIAL PRODUCT, ACCUMULATION AND TOTAL CONSUMPTION OUTLAYS

[In billion zloty, constant 1971 prices]

Year:	Domestic NMP	National NMP	NNMP less DNMP	Differences as percentage of DNMP	Accumulation	NNMP less DNMP as percentage of accumulation	Total consumption	NNMP less DNMP as percentage of consumption	Accumulation as percentage of DNMP
1960	439.2	434.9	-4.3	-0.98	104.3	-4.12	330.8	-1.30	24.2
1961	475.0	466.6	-8.4	-1.77	115.6	-7.27	351.0	-2.39	25.0
1962	485.0	479.3	-5.7	-1.18	115.7	-4.93	363.7	-1.57	24.1
1963	518.7	509.4	-9.3	-1.79	129.0	-7.21	380.5	-2.44	25.4
1964	553.6	534.3	-19.3	-3.49	136.1	-14.18	398.2	-4.85	25.4
1965	592.4	578.9	-13.5	-2.28	155.8	-8.66	423.0	-3.19	26.8
1966	634.5	621.7	-12.8	-2.02	172.8	-7.41	449.2	-2.85	27.7
1967	670.6	649.7	-20.9	-3.12	176.0	-11.88	473.5	-4.41	27.1
1968	731.0	704.9	-26.1	-3.57	200.7	-13.00	504.7	-5.17	28.5
1969	752.2	729.6	-22.6	-3.00	199.1	-11.35	530.5	-4.26	27.3
1970	791.3	766.0	-25.3	-3.20	213.8	-11.83	552.2	-4.58	27.9
1971	855.4	841.8	-13.6	-1.59	246.6	-5.52	594.7	-2.29	29.3
1972	945.8	948.4	2.6	-0.27	299.6	0.87	648.8	1.40	31.6
1973	1,048.1	1,083.6	35.5	3.39	381.9	9.30	701.7	5.06	35.2
1974	1,157.6	1,214.3	56.7	4.90	461.0	12.30	753.3	7.53	38.0
1975	1,261.4	1,346.4	85.0	6.74	509.7	16.68	836.7	10.16	37.8

Source: GUS, Dochod narodowy, 1973 (National Income 1973), Warsaw 1973, pp. 136, 139; GUS, Rocznik statystyczny, 1976, pp. 70, 75.

## NOTES

Domestic net material product = "produced income" in Marxist terminology.

National net material product = "national income for distribution" in Marxist terminology.

Domestic NMP ± balance on current account of the balance of payments = national NMP.

The balance of trade, as reported in the Polish statistical publications does not correspond to the import or export of capital as the balance of all invisible items should also be taken into consideration and that balance is unavailable. The overall excess of imports over exports increased, however, very rapidly during that period (from 239.6 million zld in 1970 to 7,198.1 million in 1974 and 7,490.0 million in 1975). The adverse balance of trade with the advanced countries in the West had a decisive role. It was almost equal to the total deficit in 1972 and 1973 and exceeded it slightly in 1973 and quite considerably in 1975 (see Table XIII). There may be some distortions in the official statistics concerning the shares of CMEA and non-CMEA trade because the intra-bloc prices differ from the world prices. Nevertheless, the relative importance of the deficit in trade with the advanced countries in comparison with the total trade deficit would still remain of approximately the same scale. There is, therefore, ample evidence that this part of the strategy has, indeed, been followed. It became possible to increase both investment and consumption because of a conscious decision to import foreign capital, mostly from the West, although the actual level of foreign borrowing probably exceeded the level which had been envisaged originally. There is, however, no information on this point.

The second feature of Gierek's new strategy is the belief that increases in real wages would lead to increases in labour productivity if only the right system of incentives is devised. To the extent to which the financial incentives which are offered to the workers may improve the discipline of work and the morale of the labour force, and incentives offered to the management may increase the efficiency with which the plants operate, this policy should have some positive

TABLE XII.—RATES OF GROWTH OF DOMESTIC NMP, IMPORTS AND EXPORTS (CONSTANT 1971 PRICES)

	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1961-65	1966-70	1971-75
Domestic NMP.....	8.2	2.1	6.9	6.7	7.0	7.1	5.7	9.0	2.9	5.2	8.1	10.6	10.8	10.4	9.0	6.2	6.0	9.8
Import.....	13.6	22.4	5.6	3.1	15.1	8.0	7.5	8.4	10.6	10.4	13.8	22.1	22.6	14.2	5.0	10.0	9.0	15.5
Export.....	14.3	11.1	4.6	18.0	8.1	3.9	11.9	15.5	7.7	8.7	6.5	15.2	11.0	12.8	8.3	11.2	9.5	10.8

Sources: GUS Rocznik statystyczny, 1976, pp. XXXIV, XXXV, XLIV, XLV; RS, 1976, pp. XXXIV, XXXV, XLIV, XLV.

TABLE XIII.—POLISH TRADE: TOTAL AND TRADE WITH CMEA, OTHER SOCIALIST, ADVANCED, AND LESS DEVELOPED COUNTRIES—MERCHANDISE TRADE ONLY

[In million "devisa zloty," current prices]

Year:	Import, other Socialist					Export, other Socialist					Total		Balance, other Socialist		Advanced countries		LDC
	Total	CMEA	Advanced Countries	LDC	Total	CMEA	Advanced countries	LDC	Total	CMEA	Total	CMEA	Advanced countries	LDC			
1960	5,979.9	3,521.2	276.7	1,775.2	406.8	5,302.1	2,942.7	378.1	1,582.2	399.1	-677.8	-578.5	101.4	-193.0	-7.7		
1961	6,746.8	3,853.5	363.2	2,177.3	352.8	6,014.3	3,419.2	337.3	1,805.8	452.0	-732.5	-434.3	-25.9	-371.5	99.2		
1962	7,541.6	4,633.3	351.4	2,117.7	439.2	6,584.5	3,848.9	288.3	1,958.7	488.6	-957.1	-784.4	-63.1	-159.0	49.4		
1963	7,916.1	4,969.2	334.8	2,111.1	501.0	7,080.1	4,194.9	297.4	2,084.6	539.2	-836.0	-774.3	-37.4	-62.5	38.2		
1964	8,289.0	4,895.6	329.0	2,423.2	641.0	8,385.7	5,039.6	362.9	2,308.6	674.6	96.7	144.0	33.9	-114.6	33.6		
1965	9,361.2	5,792.2	397.8	2,295.3	875.9	8,911.4	5,300.7	334.0	2,557.2	719.5	-449.8	-491.5	-63.8	261.9	-156.4		
1966	9,976.2	6,057.0	358.4	2,836.7	724.1	9,088.4	5,111.7	488.9	2,771.1	716.7	-887.8	-945.3	130.5	-65.6	-7.4		
1967	10,579.1	6,663.3	284.3	3,026.3	605.2	10,106.2	6,042.4	402.5	2,899.7	761.6	-472.9	-620.9	118.2	-126.6	156.4		
1968	11,412.4	7,019.3	332.6	3,301.1	759.4	11,431.2	7,058.5	455.4	3,125.3	792.0	18.8	39.2	122.8	-175.4	32.6		
1969	12,838.6	8,105.7	348.3	3,567.6	817.0	12,566.1	7,792.2	463.6	3,363.7	946.6	-272.5	-313.5	115.3	-203.9	129.6		
1970	14,430.1	9,502.5	389.8	3,721.1	816.7	14,190.5	8,599.7	464.3	4,027.5	1,099.0	-239.6	-902.8	74.5	306.4	282.3		
1971	16,150.7	10,407.2	475.6	4,407.4	860.5	15,489.3	9,205.9	564.3	4,622.0	1,097.1	-661.4	-1,201.3	88.7	214.6	236.6		
1972	19,612.4	11,418.6	585.1	6,679.4	929.3	18,132.7	10,990.8	533.9	5,514.8	1,093.2	-1,479.7	-427.8	-51.2	-1,164.6	163.9		
1973	26,102.8	12,902.3	583.6	11,596.5	1,020.4	21,355.1	12,417.8	541.8	7,303.2	1,092.3	-4,747.7	-484.5	-41.8	-4,293.3	71.9		
1974	34,822.9	14,717.5	750.8	17,681.4	1,673.2	27,624.8	14,637.9	758.5	10,013.1	2,215.3	-7,198.1	-79.6	7.7	-7,688.3	542.1		
1975	41,650.7	18,257.8	829.1	20,439.2	2,024.6	34,160.7	19,453.3	1,018.9	10,767.5	2,921.0	-7,490.0	1,195.5	189.8	-9,771.7	896.4		

Sources: GUS, Rocznik handlu zagranicznego, 1968, Warsaw 1968, p. 14; GUS, Rocznik handlu zagranicznego, 1975, Warsaw 1975, p. 20; GUS, Rocznik handlu zagranicznego, 1976, Warsaw 1976, p. 3.

results. However, this approach seems to disregard the possibility that labour productivity depends perhaps less on the amount of efforts by the workers than on the structure of production, the volume and quality of capital and on methods of production.

There was rapid increase in total and personal consumption outlays (the average rates of growth in 1971-75 were 8.7 and 8.5 respectively). These rates were sufficiently high to secure 7.7 and 7.5 average rates of growth of per capita total and personal consumption. The rate of growth of average real wage in the socialist sector was 7.2 per cent (see Tables II and VII). It should be noted, however, that financial incentives in agriculture were on the whole much less strong than in the rest of the economy. The average rate of growth of net real income of agricultural population was 4.2 per cent in 1971-75 as compared with 10.9 for the total population. The gap was even larger in comparison with the average rate of growth of net real income from work of the total population which was 11.5 per cent (see Table X).

The improvement in the standard of living which was actually achieved in 1971-75 exceeded that which had been planned originally. The rate of growth of real wages was 7.2 percent in 1971-75, while the planned rate was 3.4 percent (2.1 percent the actual rate in 1966-70); the actual rate of growth of real income of agricultural population was 4.2 percent, as compared with the planned rate of 3.4 percent (0.2 percent the actual rate in 1966-70); and the actual rate of growth of money incomes of the population was 13.7 percent as compared with 7.7 percent planned (7.8 percent the actual rate in 1966-70).<sup>21</sup>

The situation got out of control, creating a considerable inflationary pressure in the market for the consumption good.<sup>22</sup>

In support of the policy of improving the standard of living a doctrine was formulated that "consumption must become the engine of growth" and that priority should be given to social development over narrowly understood economic growth.<sup>23</sup> A number of measures in the field of social policy supplemented increases in wages and attempts were made to prepare foundations for a more dynamic expansion of socio-economic infrastructure.

In addition to material incentives, various political and psychological measures were also used in order to accelerate the growth of labour productivity. Some attempts were made to involve wider segments of the population in the process of economic decisionmaking. The appeals for the support by the population, for the production of an extra output, and for greater efforts became an essential part of the strategy.

While material incentives and political and psychological pressures and inducements were expected to increase labour productivity, large investment outlays were depended upon for the modernization

<sup>21</sup> "Podstawowe założenia rozwoju gospodarczego Polski w latach 1971-75" (The Basic Principles of the Economic Development of Poland in 1971-75), *Gospodarka planowa*, No. 13, 1972, p. 71; and A. Marczewski, "Pieniężne dochody i wydatki ludności" (Money incomes and expenditures of the population), in F. Kubiszek (ed.), *Spoleczno-gospodarczy rozwój Polski w latach 1971-75* (The Social and Economic Development of Poland in 1971-75), Warsaw 1975, pp. 55-61.

<sup>22</sup> M. F. Rakowski, "Całość i wycinki" (The Total and the Partial Situation), *Polityka*, No. 48, 1976, p. 3.

<sup>23</sup> "Program na miarę społecznych możliwości i potrzeb" (A Programme in Accordance to the Social Possibilities and Needs), *Gospodarka planowa*, No. 17, 1971; W. Dudziński, "Konsumpcja a tempo rozwoju" (Consumption and the Pace of Development), *Zycie gospodarcze*, No. 6, 1971.

of machines and equipment and for the restructuring of the economy, in a way which would increase the efficiency of capital. Here again the actual performance exceeded the plan and investment expanded on an exceedingly wide front. The completion of many projects had to be postponed for lack of complementary domestic factors, even when the essential capital goods were imported.<sup>24</sup> An important part of the programme was the creation of a modern export sector which would not only be able to finance the necessary import but which would also help to achieve economies of scale and, therefore, a reduction in costs in some priority industries.<sup>25</sup>

Import of machines and transport equipment (SITC classification 7) represented 34.5 percent of the total import in current prices in 1971, 38.7 percent in 1972, 40.8 percent in 1973, 38.5 percent in 1974 and 37.7 percent in 1975. Special efforts were made to obtain most modern machines and equipment of the highest technological level from the leading producers. As the result, the share of machines and transport equipment imported from the advanced countries in the West, whenever possible on a credit basis and often together with licences and cooperation agreements, increased from 22.1 percent of the total import of this group of commodities in 1971, to 32.3 percent in 1972, 38.5 percent in 1973, 43.8 percent in 1974 and 50.1 percent in 1975 (see Table XIV).

The proportion of total import which was allocated for investment (accumulation) increased from 16.9 percent in 1970 and 16.8 percent in 1971 to 21.5 percent in 1972 and to above 25 percent in 1973 and 1974. During the same period the proportion of import allocated for consumption increased only in the first two years after the 1970 riots (from 15.7 percent in 1970 to 17.8 percent in 1971 and 1972) and quite substantially declined afterwards (15.1 percent in 1973 and 13.0 percent in 1974) (see Table XV).

During the first two years during which the new strategy was in operation Poland purchased 57 licences or more than one fourth of all licences (205) which were purchased between the end of W.W. II and 1972.<sup>26</sup> It seems that in effect these large doses of the transfer of Western technology embodied in imported machines and equipment and in purchased licences, have been accepted as a substitute for systemic reform. This is true for all CMEA countries, including the Soviet Union,<sup>27</sup> but in Poland this policy has been applied on a much larger scale.

The complete scenario of the new strategy was probably as follows. As the result of increased real wages and other material incentives connected with substantial increases in consumption and the modernization and restructuring of the economy, very high rates of growth of national product would be achieved. This would be an intensive pattern of development. Expected limitations on the growth of the

<sup>24</sup> Rakowski, *op. cit.*

<sup>25</sup> L. Skibiński, "Handel zagraniczny" (International Trade), in F. Kubiczek (ed.), *Spoleczno-gospodarczy rozwój Polski w latach 1971-1975* (Socio-economic Development of Poland in the Years 1971-75), Warsaw 1975, pp. 173-179.

<sup>26</sup> Z. Zytomirski, "Licencje i patenty czynnikami postępu technicznego" (Licences and Patents as Factors in Technological Progress), *Handel zagraniczny*, No. 4, 1975, p. 11.

<sup>27</sup> Z. M. Fallenbuchl, "Recent Economic Developments in Eastern Europe," a paper presented at the "McMaster University Conference on the Communist States in the Era of Detente", October 1975, to be published in A. Bromke and D. Novak, *The Communist States in the Era of Detente*, Toronto: Mosaic Press, forthcoming.

TABLE XIV.—COMMODITY COMPOSITION OF POLISH TRADE (S.I.T.C. CLASSIFICATION)

Group of commodities	Million "devisa" zloty, current prices					Percentage of total				
	1971	1972	1973	1974	1975	1971	1972	1973	1974	1975
Food, beverage, tobacco:										
Export.....	1,766.0	2,410.1	2,914.4	3,076.7	2,902.9	11.4	13.3	13.6	11.1	8.5
CMEA.....	(341.8)	(634.2)	(523.8)	(894.9)	(998.7)	(2.2)	(3.5)	(2.5)	(3.3)	(2.9)
Import.....	2,022.3	1,934.4	2,679.8	3,445.6	3,874.3	12.5	9.9	10.3	9.9	9.2
CMEA.....	(983.6)	(692.8)	(615.9)	(975.1)	(1,010.2)	(6.1)	(3.5)	(2.4)	(2.8)	(2.4)
Raw materials (excluding raw materials for food):										
Export.....	648.0	642.9	845.2	1,154.1	1,291.3	4.2	3.5	4.0	4.2	3.8
CMEA.....	(198.5)	(124.5)	(108.4)	(142.9)	(213.3)	(1.3)	(.7)	(.5)	(.5)	(.6)
Import.....	2,590.0	2,687.5	3,200.3	4,421.4	4,910.8	16.0	13.7	12.3	12.7	11.8
CMEA.....	(1,252.4)	(1,246.0)	(1,237.8)	(1,386.5)	(1,769.3)	(7.8)	(6.4)	(4.7)	(4.0)	(4.2)
Fuels:										
Export.....	2,166.9	2,455.2	2,695.5	4,392.2	6,849.1	14.0	13.5	12.6	15.9	20.1
CMEA.....	(1,148.7)	(1,388.2)	(1,510.5)	(1,500.1)	(2,720.9)	(7.4)	(7.7)	(7.1)	(5.4)	(8.0)
Import.....	991.6	1,131.4	1,436.3	1,819.6	3,816.2	6.1	5.8	5.5	5.2	9.2
CMEA.....	(936.3)	(1,079.5)	(1,126.0)	(1,119.6)	(2,664.5)	(5.8)	(5.5)	(4.3)	(3.2)	(6.4)
Chemicals:										
Export.....	1,243.2	1,429.3	1,733.8	2,623.2	2,603.5	8.0	7.9	8.1	9.5	7.6
CMEA.....	(731.8)	(589.2)	(987.2)	(1,027.8)	(1,299.8)	(4.7)	(4.7)	(4.6)	(3.7)	(3.8)
Import.....	1,104.2	1,307.3	1,544.6	2,580.2	3,067.5	6.8	6.7	5.9	7.4	7.4
CMEA.....	(524.1)	(566.7)	(615.6)	(754.5)	(1,084.2)	(3.2)	(2.9)	(2.4)	(2.2)	(2.6)
Machine and transport equipment:										
Export.....	6,012.1	7,076.2	8,233.9	10,085.1	13,054.5	38.8	39.0	38.6	36.5	38.2
CMEA.....	(4,773.9)	(5,608.0)	(6,598.0)	(7,958.4)	(9,973.5)	(30.8)	(30.9)	(30.9)	(28.8)	(29.2)
Import.....	5,569.1	7,597.6	10,640.8	13,399.9	15,712.4	34.5	38.7	40.8	38.5	37.7
CMEA.....	(4,212.5)	(4,992.0)	(6,298.8)	(7,266.0)	(7,536.4)	(26.1)	(25.5)	(24.1)	(20.9)	(18.1)
Other manufactured commodities:										
Export.....	4,653.1	4,119.0	4,932.3	6,293.5	7,459.4	12.6	22.7	23.1	22.8	21.8
CMEA.....	(2,011.2)	(2,376.7)	(2,689.9)	(3,133.8)	(4,247.1)	(13.0)	(13.1)	(12.6)	(11.2)	(12.4)
Import.....	3,873.5	4,954.2	6,601.0	9,156.2	10,269.5	24.0	25.3	26.3	26.3	24.7
CMEA.....	(2,498.3)	(2,841.6)	(3,008.2)	(3,215.8)	(4,193.2)	(15.5)	(14.5)	(11.5)	(9.2)	(10.1)
Total import:										
Export.....	15,489.3	18,132.7	21,355.1	27,624.8	34,160.7	100.0	100.0	100.0	100.0	100.0
CMEA.....	(9,205.9)	(10,990.8)	(12,417.8)	(14,637.9)	(19,453.3)	(59.4)	(60.6)	(58.1)	(53.0)	(56.9)
Import.....	16,150.7	9,612.4	26,102.81	34,822.9	41,650.7	100.0	100.0	100.0	100.0	100.0
CMEA.....	(10,407.2)	(11,418.6)	(12,902.3)	(14,717.5)	(18,257.8)	(64.4)	(58.2)	(49.4)	(42.3)	(43.8)

TABLE XV.—USE OF IMPORTED COMMODITIES AS PERCENT OF TOTAL IMPORT

[Current domestic prices]

Year	Production	Consumption	Accumulation	Reexport
1962.....	61.6	19.7	17.5	0.7
1967.....	62.3	17.0	19.1	1.6
1969.....	61.1	16.9	19.3	2.7
1970.....	64.2	15.7	16.9	2.5
1971.....	63.3	17.8	16.8	1.4
1972.....	58.7	17.8	21.5	1.3
1973.....	57.4	15.1	25.3	1.1
1974.....	59.0	13.0	25.1	1.2

Sources: G.U.S. Rocznik statystyczny handlu zagranicznego 1971 (Statistical Yearbook of International Trade), Warsaw 1971, p. 82; G.U.S., Rocznik statystyczny 1976, p. 352.

supply of inputs (particularly of labour, which would be growing at rapidly declining rates, but also capital and raw materials) would not provide a barrier to growth of output, as the process would depend, to an increasing degree, on improvements in the productivity of these inputs.

In this situation, Western credits could be repaid easily by expanding exports of modern, highly sophisticated and efficiently produced industrial goods. They would be produced in new or modernized plants, utilizing the most modern Western technology and according to the Western standards. They would not, therefore, encounter any difficulties in the Western markets. Because of the high rates of growth achieved as the result of increased efficiency it would be possible to secure the excess of exports over imports, necessary to repay the loans, without hampering the possibility of continuous increases in both the standard of living and the domestically financed investments.

A crucial point in this scenario is the question whether the transfer of Western technology, modernization and restructuring of the economy and increased material incentives, made possible by heavy borrowing from the West, could, indeed, give these results without some bold systemic reforms. It seems that the importance of this factor has been somewhat downplayed.

#### IV. GIEREK'S SYSTEMIC REFORMS

The Soviet-type economic system was introduced in Poland in the late 1940's. It was in operation in its Stalinist form until 1956, although a serious crisis had already appeared in 1953-1954. In October 1956 a lengthy process of economic reforms began. The objective has always been the same: to increase the overall efficiency of the economy without destroying its socialist nature, which in practice meant without inviting disapproval by the Soviet Union and pressure for the withdrawal of the "new model."

Dr. J. G. Zielinski, the top Western authority on Polish reforms, divides the history of this process into five stages: (1) the move "towards a grand design" in 1956-58, when an attempt was made to introduce the "guided market," or "market-parametric" model; (2) the "intermediate period" in 1959-64, when "much of the initial impetus of reforms was dissipated and some reversions to old methods of planning and management occurred"; (3) the "period of gradual improvement" in 1965-68, a new wave of reforms of pragmatic nature

rather than based on some theoretical concept; it was envisaged as a long gradual process of partial improvements which would be introduced first on a limited scale as experiments; (4) an "abortive effort to reform" in 1968-70, which was announced by the Fifth Party Congress (November 1968) as a "comprehensive and internally consistent system of planning and management" and which was never introduced on a full scale because of the 1970 riots; and (5) Gierek's reforms introduced after 1971.<sup>28</sup>

This most recent attempt was based on the following seven assumptions: (1) every strategy of development requires a different system of planning and management<sup>29</sup> and the obsolete and ineffective methods of the "steering of the economy" can act as "a barrier to the achievement of the objectives of socio-economic development if they are not changed on time";<sup>30</sup> (2) a search for a "new model" of the economy has been rejected and replaced by the concept of a continuous "perfecting of the existing economic system and adjusting the institutional and instrumental solutions to the changing strategical goals";<sup>31</sup> (3) all partial changes should be consistent among themselves and with the comprehensive improvements in the system as a whole; (4) all changes should be introduced on a limited scale first as experiments and their results should be carefully studied and, if necessary, they should be modified to eliminate any adverse effects; (5) it is necessary "to strengthen and to increase the accuracy and effectiveness of central planning and central allocation of resources"; this implies that "in all those matters which are important for the directions of the development of the country and the fulfilment of production targets in respect of economic growth and the standard of living the central management must be strengthened"; at the same time, however, there must be "widening of the autonomy of industrial associations, industrial complexes and enterprises \* \* \*," creating greater possibilities for "the initiative of their managements and workers in respect of both the fulfilment of production target and, above all, the utilization of all reserves";<sup>32</sup> (6) a system of economic parameters, determined by the central planners, rather than direct commands will be used "to steer" the economic units to make decisions in the desired direction; it is, therefore, not a market socialist model, but the central planning-parametric model";<sup>33</sup> (7) the scale of the management units of economic activity should be increased and there should be closer links between production, research and development, and marketing.

It is important that the systemic changes have been accepted as a policy variable, or, in the words of the distinguished Polish economist, J. Pajestka, that it has been realized that "if the socialist society wishes to determine consciously its development, the task of moulding the system of functioning of the economy is not less essential than the

<sup>28</sup> J. G. Zielinski, *Economic Reforms in Polish Industry*, London: Oxford University Press 1973, pp. 14-21.

<sup>29</sup> *Doskonalenie procesu planowania, zarzadzania i kierowania gospodarką narodową*, Warsaw 1972, p. 5.

<sup>30</sup> *Ibid.*, pp. 21-22.

<sup>31</sup> J. Szydłak, "Drugi etap prac komisji partyjno-rządowej kła unowoczenia funkcjonowania gospodarki i państwa" (*The Second State of Activities of the Joint Party-State Commission on the Modernization of the Economy and the State*), *Gospodarka planowa*, No. 8, 1973, p. 506.

<sup>32</sup> Gorecki and Kabaj *op. cit.*, pp. 320-321.

<sup>33</sup> B. Gliniski and A. Topinski, "Wdrażanie kompleksowego systemu ekonomiczno-finansowego w latach 1973-1975—aktualne problemy" (*The Implementation of the Comprehensive Economic and Financial System in 1973-75: Some Actual Problems*), *Gospodarka planowa*, No. 10-11/1975, p. 543.

planning of material economic processes.<sup>34</sup> This approach is close to the modern Western theory of comparative economic systems.<sup>35</sup> It implies flexibility and it may remove systemic changes from the domain of dogma. However, it ignores the danger that a continuous process of changes and experiments can create a considerable degree in instability, and that some changes may be either irreversible or could only be reversed at the danger of creating some serious economic or even political disturbances. In its gradual, pragmatic, and experimental approach the new reforms are closer to those of the "intermediate period" of the early 1960's than to those of the late 1950's or the late 1960's.

The parametric system of steering appears to be very scientific but the planners may have great difficulties with establishing the right parameters in practice. These are basically arbitrary decisions which can lead to serious mistakes. There is no guarantee that the decisions as to the directions of economic development will be more successful than those of the 1950's, except that the planners are now more sophisticated and experienced than at that time. Central planners' priorities and not the market signals will shape up the new industrial structure "from above", i.e., from overall decisions as to the proportions among various sectors of the economy, and not "from below", from the micro-decisions to the sectoral proportions and the rates of growth. There is some inconsistency between the objective of strengthening the central planning and granting more autonomy to the economic units.

The solution involves the creation of the so-called "big economic organizations" (WOG) composed of the associations of enterprises, industrial complexes and some large multi-plant enterprises. Some planning and some decision-making processes in connection with the day-to-day operations, and to a certain extent some powers in respect of investments from the big economic organizations' own investment funds or credits, were indeed transferred closer to the actual production units. On the other hand, the managers of individual enterprises which were included in these organizations lost practically all their autonomy to the management of the larger units. As the big economic organizations combine the production units together with the research and development institutes and, in many cases, also with the internal and foreign trade organizations, the new organization should be more flexible, and should make the production units more sensitive to the availability of new products and new technologies, and more responsive to the domestic and foreign demand. However, the objective of increasing the powers of the central planning authorities in respect of some main directions of development, rates of growth and improvements in the standard of living implies that in practice the management autonomy of the big economic organizations can be seriously restricted. As all their decisions have some impact on the rates of growth and the standard of living, it was clear from the very beginning that the central authorities would be intervening in practically all matters. To some extent the reforms were really not much more than changes in the industrial organization combined with granting a greater degree of autonomy to the management of larger units, which re-

<sup>34</sup> J. Pajestka, "Doskonalenie funkcionowania gospodarki."

<sup>35</sup> E. Neuberger and W. Duffy, *Comparative Economic Systems: A Decision-Making Approach*, Boston: Allyn & Bacon, 1976.

semble modern corporations in the West in their composition, scale and methods of management, but which have to follow the central planners' orders.<sup>36</sup>

The new system can move beyond being a set of organizational changes only if the big economic organizations will really act as economic enterprises and not as units of public administration. They have been asked to accept two criteria for their activity: (1) the added production, (i.e. value added) and (2) profit. Added production is defined as the difference between the gross sold production, corrected for the turnover tax or subsidies, less all material costs without amortization and repayment of investments, credits and interest payments. It represents the economic organization's contribution to the formation of national income. It is expected that with the help of taxes and subsidies the effect of external factors beyond the control of the organization can be excluded and the "purified" value represent results due to the efforts of the management and workers of a given economic organization. At the same time, by linking the rate of growth (or the level) of the wage to the movements (or level) of the "purified" added production, maximization of the organization's contribution to national income becomes in the material interest of all its employees. Profit becomes the source of repayment of credit and of the creation of various funds, including the managerial bonus fund. In this way, the management is expected to have a financial interest in the maximization of profit. The priority has, however, been given to the added production. Its division into profit and wages has been removed from the jurisdiction of the management. Its amount is calculated with the help of a parameter which is fixed by the central authorities at a different level for every big economic organization, taking into consideration its particular situation.<sup>37</sup>

In this way profit has lost its economic meaning as it is a fixed proportion of the added value of production. The warning given by some leading Polish mathematical economists, for example by Professor W. Trzeciakowski and Dr. A. Legatowicz, that the maximization of the added production would not necessarily result in the optimal allocation of resources,<sup>38</sup> was ignored and the danger of wrong decision as to the substitution between labour and capital, and of undesirable employment and wage movements, was expected to be averted by the use of the so-called long-term normative parameters. These normatives originally included: (1) the relation of the growth (or the level) of the wage fund to the added production (normatives R or U); (2) the limit of the tax-free part of profit for the creation of the enterprise funds; (3) the relation of the managerial bonus fund to the profit (normative N); and (4) the participation of the economic organization in the improvement of foreign trade (normative D). All these normatives are individualized in order to separate the part of added production resulting from the efforts of the economic organization from that created as the result of conditions beyond its control (this part may be positive or negative).

In addition to the determination of the normatives for all economic organizations, the central authorities have also at their disposal two

<sup>36</sup> Pajestka, op. cit.

<sup>37</sup> Ibid.

<sup>38</sup> J. Mujzel, "Problemy motywacji" (The Problems of Motivation), *Zycie gospodarcze*, No. 5, 1975, p. 11:

groups of variable general parameters which determine the conditions for the economy as a whole. The first group is composed of the parameters which are supposed to inform the economic organizations about the state of general economic activity (the macroeconomic balance of the economy), sectoral pressures, and relative scarcities of commodities and factors. They include prices, the rate of interest, rates of amortization, foreign exchange coefficients, and others.

The second group is composed of the so-called "supporting general parameters" which include (1) "subject subsidies", offered in order to encourage production of commodities which would otherwise be rejected by the economic organizations as uneconomical; (2) price equalization subsidies and taxes on exports and imports, to compensate the economic organizations for the differences between the domestic and foreign trade prices, or to eliminate extra benefits resulting from these differences; and (3) export taxes and import tariffs and similar measures which may be introduced from time to time in order to cope with special problems.

Finally, the centre can use obligatory targets and limits in the form of direct commands. From the beginning, obligatory targets were envisaged for unprofitable production and for the production for high priority investments or exports. Direct commands were also to be applied for the most important investments and in foreign trade (import and export quotas). The big economic organizations were authorized to apply direct commands in their relations with the individual enterprises which belong to them, if they preferred this method rather than indirect economic measures.<sup>39</sup>

The system was introduced gradually. In the middle of 1972 some 35 big economic organizations were selected as the so-called "initiating economic units" (18 associations of enterprises, 4 industrial complexes and 2 large multi-plant enterprises). As from January 1, 1973, 16 of these units started to operate under the new principles. At the end of that year there were already 28 initiating units which were responsible for 20 per cent of the total industrial output of the country.<sup>40</sup> In 1974 there were 68 initiating organizations in industry alone which were responsible for 44.7 per cent of sold output and 38.5 per cent of employment. In 1975 there were 125 big economic organizations, including 110 in industry which produced 67.7 per cent of sold output of the socialist industry and were responsible for 61.0 per cent of industrial employment. In addition, all state-owned enterprises of internal trade and restaurants under the jurisdiction of the Ministry of Internal Trade and Services, consumers' and producers' cooperatives, 2 construction organizations, 2 transport organizations and 3 foreign trade organizations worked according to the new system. It was expected that in 1976 the initiating organizations in industry would be responsible for about 80 per cent of the output of the socialist industry and 75 per cent of its employment.<sup>41</sup>

This rapid widening of the system took place because of the favourable results of the first initiating units. During the period 1973-75

<sup>39</sup> Gliński and Topiński, *op. cit.*, p. 543.

<sup>40</sup> Gorecki and Kabaj, *op. cit.*, p. 322.

<sup>41</sup> J. Pinkowski, "Kierunki dalszego doskonalenia systemu ekonomiczno-finansowego organizacji gospodarczych" (Directions of Further Improvements in the Economic and Financial System of Economic Organizations), *Gospodarka planowa*, No. 12, 1975, pp. 598, 600; M.L.M., "Dyskusja nad systemem WOG" (Discussion on the System of Big Economic Organizations), *Zycie gospodarcze*, No. 47, 1975.

they achieved higher rates of growth and, on the whole, more favourable economic results than the rest of the socialist industry. They achieved higher rates of growth of labour productivity with lower increases in the average wages, but they also had higher rates of growth of employment. They also were able to produce more for export to the advanced Western countries and for the domestic consumption market.<sup>42</sup> It is, however, important to remember that the most efficient organizations, with the most modern capital equipment and best management, were selected for the experiment and that they enjoyed priority in respect of imported machines and investment in general during that period. The "great experiment" was, therefore, somewhat less "scientific" in practice than it had been envisaged at first.

It is also interesting to note that the particularly good results were achieved during the first year of the operation of the system. The added production of the initiating organizations in industry increased by 31.6 per cent in 1973, 23.4 per cent in 1974 and 18.4 per cent in 1975. In the same years the wage fund of these organizations increased by 19.6, 16.1 and 13.1 per cent. The increase in added production per one per cent increase in the wage fund declined from 1.6 in 1973 to 1.4 in 1974 and remained at that level in 1975.<sup>43</sup>

In the opinion of at least some Polish economists the first successes, particularly those achieved in the first year, were connected with the removal of some obvious waste and relatively easy organizational improvements, better utilization of existing productive capacities and labour, and the elimination of excessive stocks and other "reserves".<sup>44</sup> In a way they can be regarded as a measure of the degree of inefficiency which had accumulated under the old system.

From the beginning there was a conflict between the elements of the new system and the principles of annual planning, the importance of which was never reduced despite the original proposals of the Joint Party-State Committee. So long as the targets of the annual plan had to be fulfilled, the semi-automatic mechanism of the parametric system could not work. As one manager told the author, already in 1974 the situation was such that, on one hand, the manager was asked to follow the "rules of the game," to maximize the added production value added, but, on the other hand, he was given quantitative annual targets and was receiving from time to time "informal" instructions from the central authorities demanding him to produce this or that "in the public interest." At the same time the workers were demanding improvements in the standard of living and in working conditions which were not consistent with the "financial rules of the game," while the local party authorities were exerting pressure on him to do anything in order to avoid the danger of a strike or riots, as many local party officials had lost their jobs as the result of the 1970 riots.

There was also a conflict between the new system and the rigid price controls based on the decision to keep prices relatively stable for social and political reasons. In this way one of the potentially

<sup>42</sup> Pińkowski, *op. cit.*, p. 598.

<sup>43</sup> G. U.S., *Rocznik statystyczny 1976* (Statistical Yearbook 1976), Warsaw 1976, p. 179; Gliński and Topiński, *op. cit.*, p. 542.

<sup>44</sup> B. Gliński, "WOG a koordynacja branżowa" (The Big Economic Organization and the Coordinating Within an Industry), *Życie gospodarcze*, No. 20, 1976, p. 11; Mujżel, *op. cit.*, p. 11.

most powerful instruments of the parametric system was almost switched off.

The conflicts between the new system and the annual plan targets and price controls reduced the effectiveness of the system from the time it was introduced. They became, however, particularly serious later, when some unforeseen developments made the operation of the system very difficult anyway.

In the second half of 1974 certain changes appeared in the environment within which the new system operated. Two of them were particularly important: (1) strong inflation in the world markets, which drastically increased the prices of not only raw materials but also of the capital goods needed for the continuation of investment projects which had already been started, or had to be made in some complementary fields in order to utilize fully the previously undertaken investments; and (2) an excessively high rate of growth, resulting mainly from the utilization of traditional methods of planning and management together with the new development strategy, the new social policy and the new political dynamism. Both created serious shortages and pressures in the economy and had an effect on the functioning of the initiating organizations.<sup>45</sup>

In order to induce the industrial organizations to produce for export, the new system included the principle of calculating the value of the added production sold in the export markets at the so-called "prices of realization" which, with the help of foreign exchange coefficients differentiated between the CMEA and other regions, were directly related to the actual prices received in foreign currencies. This was a very important provision from the point of view of opening up the economy, creating of a viable export sector, and raising the efficiency of the economy as a whole. Inflationary increases in the prices obtained in the export markets expanded value added ("added production") and, therefore, the wage and other funds available to the economic organizations and made it impossible to separate the expansion which was caused by improvements in products and in marketing from the results of a change in the environment. Inflationary increases in the prices of imports had some impact on the costs of production despite greatly increased price equalization subsidies and were responsible for some increases in the domestic prices (there was a general upward revision of the prices of producers' goods as from January 1, 1975). Again, in some industries the increases in value added were achieved as the result of the price increases and it was difficult to separate them from those which were the result of the efforts by the big economic organizations.

There was a combination of three factors in operation: (1) the inflationary pressures transmitted from the world markets despite various insulating layers in the centrally planned economies;<sup>46</sup> (2) the policy of increasing wages and the standard of living; and (3) the very high rates of investment. As the result, inflationary pressures and shortages were created throughout the economy. Highly concentrated, and often monopolistic, economic organizations in industry, internal trade and services were operating in a strong sellers' market and were

<sup>45</sup> Gliński and Topinski, *op. cit.*, p. 542.

<sup>46</sup> Z. M. Fallenbüchl, E. Neuberger and L. Tyson, "East European Reactions to International Commodity Inflation" in this volume, *supra*.

able to accumulate considerable funds rapidly. At the same time they became less sensitive to the parameters.

Instinctively the authorities moved back towards greater centralization in the decision-making process, restriction of the autonomy of the big economic organizations and increased reliance on direct commands. The normatives were lowered, despite the previous assurances that they would remain constant for a relatively long period. A number of supplementary parameters were introduced. For example an export tax was imposed in order to take away from the economic organizations the inflationary profit (the price above 7-9 per cent is taxed at an 85 per cent rate). There were also increases in the rates of the turnover tax. A number of additional quantitative targets and limits were introduced in the form of direct commands. The funds at the disposal of the economic organizations were frozen and reduced by transferring them to some reserve funds established at the central administrative level of the industrial ministries.<sup>47</sup> As it is difficult to distinguish in practices between the gains which were the result of improved economic activity of the organizations and those resulting from a change in the environment, in many cases the efforts to increase efficiency were penalized.

It is significant that as soon as there was an unfavourable change in the environment there was an increase in the use of direct commands and intervention by the central authorities in the affairs of the big economic organizations which considerably reduced their autonomy, which had never been great. The system tried to encourage the big economic organizations to eliminate excessive reserves, to use fully their capacities and the labour force, and to declare their real needs and possibilities. This was the purpose of the enterprise funds which it was profitable for the organizations to increase. The obligatory transfer of the funds to the industrial administrations and their freezing there, created a credibility crisis and must have had an adverse effect on the willingness of the organizations to build these funds in the future. Similarly, the introduction of some supplementary parameters with retroactive effect must have undermined the confidence of the economic organizations in the new system. How can anybody expect them to play the game when its rules are changed *ex post*?

The reforms attempted to introduce central planning parameters as a substitute for the market forces. Under the double impact of the externally and domestically generated inflationary pressures the elaborate and complicated but, at the same time, relatively inflexible system of normatives and general parameters collapsed. The return to the old command methods of administration is perhaps only a temporary policy. Those economists, who seem to be committed to the parametric system, although often critical of some of its particular features, for example Professor J. Mujzel, who is undoubtedly one of the top experts on systemic changes in Poland, advocate the necessity of returning to it as soon as possible.<sup>48</sup> It is, however, doubtful whether, after the system has lost its credibility, it can operate satis-

<sup>47</sup> Mujzel, *op. cit.*, p. 11; Głinski and Topinski, *op. cit.*, pp. 543-544.

<sup>48</sup> See, for example, J. Mujzel, "Narzędzia kierowania i struktura WOG" (The Steering Instruments and the Structure of the Big Economic Organizations), *Zycie gospodarcze*, No. 11, 1975, p. 11.

factorily in the future at all, even to the limited extent to which it operated in the first year after its introduction.

As the new system was introduced, on a limited scale, at the beginning of 1973 and was already considerably restricted by 1975, it is doubtful that it was able to contribute much to the successes of the first three or four years under the new leadership.

#### V. THE PERFORMANCE OF THE POLISH ECONOMY IN 1971-75

The growth performance of the Polish economy during the five year plan period 1971-75 was very impressive. The average growth rate of GNP, calculated by the Western experts, was 7.38 per cent, as compared with 4.16 per cent average in the preceding five year period. Although there was a declining trend within the period from one year to another, the fluctuations of the annual rates were relatively small and the coefficient of variation ( $\sigma/x$ ) was considerably lower in 1971-75 than in 1966-70 (see Table I). According to the official statistics the average rate of growth of the domestic net material product (the "produced national income") was higher than in any other period since 1950 and so were the average rates of growth of accumulation, fixed capital investment and total and personal consumption outlays. On the per capita basis the official data on total consumption and personal consumption also show the highest average rates since 1950, and the average real wage increase was the second highest after that of the brief period of economic reforms and reduced pace of industrialization in 1956-58, when the wages moved up from a very low level of the early 1950's (see Table II).

The average rate of growth of labour productivity, calculated as the net material product per person employed in the national economy, exceeded the average rate of growth of fixed capital per employee, which implied some improvement of the "effectiveness of capital", or that part of the increase in labour productivity (net material product per employee) which could not be explained by the increase in capital per worker. An increase in labour productivity which can be attributed to an increase in capital per worker is regarded by the Polish economists as being caused by "extensive factors" (an increase in the quantity of capital) and only that part of the rate of growth of labour productivity which is above the rate of growth of capital per worker is accepted as being attributable to "intensive factors" (increase in the productivity of capital).

The rate of growth of the effectiveness of capital was positive again in 1971-75 (it had been negative in 1966-70, as fixed capital per worker was growing faster than labour productivity), although it was still the second lowest rate since 1951 (see Table III).

These are the official statistics and the approximate method currently used in Poland to calculate the relative importance of the extensive and the intensive factors in the process of growth. They are the statistics which are studied by the planners and form a basis for their policy decisions. Taking the averages for 1971-75 into consideration, the leaders could congratulate themselves. The economy not only achieved high rates of growth but there was some evidence that intensive factors had again begun to play a positive role, although still much more modest than in the advanced Western countries, or

even in Poland before 1966. And yet, the rate of growth of the effectiveness of capital exceeded 3 per cent only in two years (1972 and 1973) and there was a declining trend from the high 1972 rate of 3.7 percent to -1.1 percent in 1975 (see Table III). In other words, whatever improvement in this respect took place it was rather short-lived. The rate of growth of the effectiveness of capital declined in the last year of the period below the average for 1966-70, although it compared somewhat more favourably with the average for that period when calculated as a percentage of the rate of growth of net material product and, even more so, as a percentage of the rate of growth of labour productivity (the net material product per employee).

These figures could support a hypothesis that the particularly good performance during the period 1971-75 was due to a recovery from the stagnation of the late 1960's, that it was caused by the new dynamic economic and social policy, the response of the workers to special appeals and increased material incentives, and the support which the population in general was prepared to grant to the new leadership because of the visible signs of improvement in the standard of living. This was particularly clearly seen in agriculture. The performance of that sector was very impressive during the first two years. The improvement was probably in response to the considerably increased prices of agricultural products, with the prices of inputs bought by the farmers remaining approximately constant, and to other material and non-material incentives, new social welfare measures, and a general liberalization associated with the "new agricultural policy", which included the abolishment of compulsory deliveries as from January 1, 1972.

The utilization of "shallow reserves" and the improvements in material and non-material incentives must have had a considerable impact on the sharp acceleration of the rates of growth as from the beginning of 1971. These measures were probably responsible for the relatively high rates of the effectiveness of capital (see Table III). The highest rate (3.2 percent) appeared in 1972, i.e. before the new economic and financial system was introduced, and the second highest (3.1 percent) in 1973 when it was operating on a limited, experimental scale. The systemic changes could not, therefore, have any impact at that time, although taking into consideration their limited nature and scope, and the shortness of the period during which they operated, it is doubtful that they could have any significant impact later.

The high rates of growth of the net material product, particularly during the years 1972-74, were most likely caused by the operation of two extensive factors and the new strategy of development in general. There were very rapid increases in employment in the national economy (material production) and, as agriculture was losing the labour force in four out of five years and the decline was greater than it had been envisaged, even more rapid increases in employment occurred outside agriculture (see Table XVI). In the two years when these increases were relatively moderate (1971 and 1975) the rates of growth of net material product were also lower than in the three years with the high rates of growth of employment. Particularly big increases in employment occurred in construction in these three years. Although the official sectoral rates of growth are affected by price distortions,

TABLE XVI.—EMPLOYMENT AND GROSS FIXED CAPITAL (CONSTANT 1971 PRICES) (OFFICIAL DATA)

Year	Employment (thousands)					Gross fixed capital (million zloty)					Gross fixed capital (thousand zloty) per employee				
	National economy <sup>1</sup>	Outside agri-culture	Agri-culture	Industry	Con-struction	National economy <sup>1</sup>	Outside agri-culture	Agri-culture	Industry	Con-struction	National economy <sup>1</sup>	Outside agri-culture	Agri-culture	Industry	Con-struction
<b>A. Absolute levels:</b>															
1970	13,446	8,279	4,856	4,261	1,420	2,172,047	1,547,164	528,767	916,333	58,772	162	187	109	215	41
1971	13,609	8,458	4,831	4,364	1,458	2,307,087	1,658,219	547,333	991,819	63,462	170	196	113	227	44
1972	13,917	8,784	4,804	4,510	1,550	2,457,510	1,784,268	568,994	1,074,960	71,413	177	203	118	238	46
1973	14,223	9,111	4,770	4,632	1,706	2,643,386	1,937,862	597,030	1,173,291	85,817	186	213	125	253	50
1974	14,625	9,489	4,774	4,747	1,862	2,889,900	2,144,210	632,486	1,302,729	106,706	198	226	132	274	57
1975	14,829	9,697	4,753	4,819	1,916	3,183,241	2,391,037	672,256	1,457,339	128,347	215	247	141	302	67
<b>B. Rates of growth:</b>															
1971	1.2	2.2	-0.5	2.4	2.6	6.2	7.2	3.5	8.2	8.0	4.9	4.9	4.0	5.7	5.5
1972	2.3	3.9	-0.6	3.3	6.4	6.5	7.6	4.0	8.4	12.5	4.2	3.6	4.5	4.9	5.8
1973	2.2	3.7	-0.7	2.7	10.1	7.6	8.6	4.9	9.1	20.2	5.3	4.7	5.7	6.3	9.2
1974	2.8	4.1	-1	2.5	9.1	9.3	10.6	5.9	11.0	24.3	6.3	6.3	5.9	8.3	13.9
1975	1.4	2.2	-0.5	1.5	3.9	10.2	11.5	6.3	11.9	20.3	8.6	9.1	6.8	10.2	16.9
Average 1971-75	1.98	3.22	-0.44	2.48	6.22	7.96	9.10	4.92	9.72	17.06	5.86	5.72	5.38	7.08	10.26

<sup>1</sup> Material production only.

Source: GUS, Rocznik statystyczny 1976, pp. 68-69.

they can be taken, with caution, as a rough indicator of changes in the pace of growth within each sector. Construction recorded particularly high rates of growth during these three years. These extremely high rates were closely connected with the second extensive factor, namely, a very rapid increase in gross fixed capital (in constant 1971 prices). As the result, the capital-output ratio was rapidly increasing in the national economy as a whole, but this acceleration was particularly strong in construction and industry.

It seems that the main reason for the high rates of growth of net material product was an investment boom, associated with large increases in employment outside of agriculture. The average rates of growth of both accumulation and fixed capital investment in 1971-75 were the highest in the entire period since 1950 (see Table II). Despite a very serious neglect of the socio-economic infrastructure in the past and the existence of enormous backlogs, particularly but not exclusively in housing, the proportion of total investment which was allocated for this purpose (the so-called "non-productive investments") declined to 21.3 percent, well below the proportion which had been allocated during the preceding two five year periods (28.6 percent in 1961-65 and 21.3 percent in 1966-70). The share of investment allocated to housing and the so-called "communal economy" (i.e. urban and rural social infrastructure) alone, which represent a part of the total non-productive investments, declined to 17.2 percent as compared with 21.7 percent in 1961-65 and 19.1 percent in 1966-70 (see Table XVII).

TABLE XVII.—INVESTMENT, NET INDUSTRIAL PRODUCT AND INDUSTRIAL EXPORT (OFFICIAL DATA)  
(PERCENTAGES OF TOTAL)

Branch of industry	Investment outlays <sup>1</sup> 1971-75	Net industrial product <sup>2</sup>		Total industrial export <sup>3</sup>		Industrial export to the advanced countries in the West <sup>3</sup>	
		1970	1975	1970	1975	1970	1975
Fuel and energy .....	21.9	15.4	17.2	14.4	20.7	21.0	36.7
Metallurgical .....	13.3	8.5	8.4	7.6	7.0	11.1	8.6
Electrical and mechanical .....	23.6	31.8	32.1	44.5	42.8	16.5	17.6
Chemical .....	10.5	8.9	8.4	9.8	9.6	7.7	8.1
Mineral .....	7.1	4.4	3.6	.9	.8	1.9	1.5
Wood and paper .....	4.0	4.6	4.6	2.9	2.1	6.3	4.0
Light .....	7.6	13.9	13.8	9.5	9.2	8.3	7.2
Food .....	10.6	10.4	9.9	10.0	7.3	26.4	15.5
Other branches .....	1.4	2.1	2.0	.6	.5	.9	.7
Total .....	100.0	100.0	100.0	100.0	100.0	100.0	100.0

<sup>1</sup> Investment outlays on fixed capital in the Socialist sector (1971 prices).

<sup>2</sup> Net industrial product without turnover tax (current prices).

<sup>3</sup> Export in current prices (złd).

Source: GUS, Rocznik statystyczny 1976, pp. 122, 153. GUS, Rocznik statystyczny handlu zagranicznego 1976, pp. 8-9

In other words, not only the proportion of accumulation in the national net material product and the rate of net material product and the rate of overall investment moved to the highest levels since 1950, but the share of "non-productive" investment declined even further in order to achieve the highest possible level of directly productive investment. This is very surprising because the relative underdevelopment of the infrastructure, and the acute shortage of housing has been recognized by the Polish economists for years as not only a

factor effectively reducing the quality of life and creating serious social problems and political pressures, but also as one of the reasons for relatively low productivity of labour. The investment policy during the early 1950's and the early 1960's was criticized *ex post* not only because the excessively high rates of growth were attempted but also because not enough resources were allocated for the development of infrastructure, on the grounds that such decisions could have had an adverse effect on the rates of growth of the economy in the long-run.<sup>49</sup>

There was also a reduction in the share of agriculture in total investment in comparison with 1966-70 and, slightly, also 1961-65, despite the fact that the importance of agriculture for the long-run growth of the economy had been recognized. The same happened to the share of commerce, while the share of transportation and communications increased only slightly in 1971-75 in comparison with the preceding five year period. All these sectors have either direct or indirect effect on the standard of living and the quality of life, the improvements in which were accepted by Gierk as top priorities and the main goals of the socio-economic development.<sup>50</sup>

It was the share of investment allocated to industry and to construction that increased rapidly in comparison with the two preceding periods. Industry received 43.8 percent of all investment outlays, as compared with 39.4 percent during the last Gomulka's five year period and 40.2 percent in 1961-65. The share of the construction industry increased from 3.1 percent in 1961-65 to 4.0 percent in 1966-70 to 5.1 percent in 1971-75 (see Table XVII).

In its overall rate of investment and in the structure of investment allocations among the major sectors of the economy this was almost just another orthodox Stalinist investment drive, undertaken within the basically orthodox system of central planning and management. Using Janos Kornai's dichotomy this was a typical case of "rush" and not that of "harmonic growth", with all its well known seriously adverse consequences.<sup>51</sup> With the pressures which this drive must have created, it is not surprising that there could not have been any significant systemic reforms, that the central-planning parametric system collapsed, strong inflationary pressures were generated within the economy and serious shortages appeared. It was as though the past unhappy experience with this type of policy had suddenly been forgotten.

The excessively high rate of investment, particularly in industry, was partly the result of the fact that investment got out of control. This happened not because of an increased degree of autonomy of economic organizations, but because there was a general expansionary attitude "at all levels of the administrative structure" which had its basis in "the accumulated needs, the full extent of which \* \* \* [had been noticed] more clearly and within a sharper focus after 1970."<sup>52</sup> There also seemed to appear a tendency for what may be referred to as "the multi-centre direction of the economy" with the Central Planning Commission, The Central Committee and the Presidium of the Council of Ministers each making its own decision in response to

<sup>49</sup> Fallénbuchl, "Some Structural Aspects" and "The Communist Pattern of Industrialization."

<sup>50</sup> "Program na miare społecznych możliwości i potrzeb" (The Programme According to the Social Possibilities and Needs), *Gospodarka planowa*, No. 1, 1972.

<sup>51</sup> J. Kornai, "Rush Versus Harmonic Growth," Amsterdam-London: North-Holland, 1972.

<sup>52</sup> Rakowski, *op. cit.*

different pressures from local party and state authorities, the industrial branch ministries and lobbying by various managers of economic organizations. The local authorities and the managers have learned that the "rules of the parametric game" are dead and that they can achieve more by their close political or private contacts and influence with one of the three centres in order to "hook on to the plan", i.e. to get an initial approval for the allocation of investment funds for a new project, or foreign exchange for the import of some new machines, on the basis of unrealistically low estimates, knowing well that once the project is included in the plan it will subsequently receive all that is needed for its completion.<sup>53</sup> As the result of this situation the investment and import plans were continuously revised upward not only at the time of the preparation of the annual plans but also during their implementation. Not surprisingly, the investment plan for 1971-75 was exceeded by about 25 percent and the total investment outlays in constant 1971 prices increased by 91 percent in comparison with the preceding period.<sup>54</sup>

Earlier excessive investment drives collapsed within two or three years after they had been launched.<sup>55</sup> This time it lasted longer because of the import of foreign capital. This was probably the reason why the new leadership selected again the same path of heavy investment concentrated to a great extent in industry. They must have expected that the Western credits would reduce the degree of inflationary pressure, remove bottlenecks and keep in check the adverse consequence on the standard of living. The import of foreign capital did perform this function. There was a large import of investment goods, but they represented only a fraction of all investment goods which the programme required. Various complementary investment goods had to be produced domestically in order to utilize fully the imported investment goods. The share of imported goods increased from 11.0 percent of all goods needed to satisfy the requirement of accumulation (fixed capital investment and inventories) in 1966-70 to 17.0 percent in 1971-75. For machines and equipment alone this proportion increased from 36 percent to 47 percent. It declined, however, to 34 percent already in 1975.<sup>56</sup>

The difference between the national net material product (the "distributed national income") and the domestic net material product (the "produced national income") was equal to 9.30 percent of the accumulation fund in 1973, 12.30 percent in 1974 and 16.68 percent in 1975 (see Table XI). This difference, which represents the difference between import and export of goods, helped to achieve the very large share of accumulation in the domestic net period which reached 31.6 percent in 1972, 35.2 percent in 1973, 38 percent in 1974 and 37.8 percent in 1975. It could not, however, prevent the appearance of serious disturbances in the process of growth.

<sup>53</sup> *Ibid.*

<sup>54</sup> F. Kubiczek, "Polska polityka społeczno-ekonomiczna w latach 1971-75" (The Polish Socio-Economic Policy in the Years 1971-75), *Gospodarka planowa*, No. 4, 1975, p. 218 and G.U.S., *Rocznik statystyczny* 1976, p. 122.

<sup>55</sup> A. Karpinski, *Zagadnienia socjalistycznej industrializacji Polski* (Problems of the Socialist Industrialization of Poland), Warsaw 1958, pp. 69-100; *Polityka uprzemyslowienia Polski w latach 1958-1968* (The Policy of Industrialization of Poland in the Years 1958-1968), (Warsaw 1969, pp. 394-400; "Strategia rozwoju gospodarczego Polski w ujeiu perspektywnym" (The Strategy of Economic Development of Poland in the Long-run Terms), *Gospodarka planowa*, No. 7, 1971.

<sup>56</sup> T. Wrzaszczyk, "Kierunki dalszego rozwoju gospodarki" (The Directions of the Further Development of the Economy) *Nowe drogi*, No. 1, 1977, p. 11; B. Wojciechowski, "Problemy importochlonosci gospodarki Polski" (Import-intensity of the Polish economy), *Gospodarka planowa*, No. 12, 1976, p. 639.

## VI. THE SOURCES OF PRESENT DIFFICULTIES

If the above interpretation of the reasons for the impressive growth performance in the early 1970's is correct, then the same factors which explain the high growth rates during the period also provide an explanation for the difficulties which started to appear in 1974 and become particularly clearly visible in 1976. Gierek's policy of direct appeals to the workers and the managers of economic organizations for some extra work in the form of the so-called "additional tasks" was quite successful in utilizing "shallow reserves" in the first two or three years of its application. When, however, in 1974 the links between wages and bonuses and the financial results achieved by the economic organizations were weakened, as the result of freezing the funds at the disposal of these organizations, the interest of the managers shifted away from the long-run improvement in efficiency to the short-term gains in production. Instead of trying to follow the "rules of the game," which were designed to increase efficiency, they preferred to assume some "additional tasks" of quantitative nature. These tasks, widely publicized as responses to the leader's appeals, were usually selected because they were easy to fulfill. Various monetary and non-monetary rewards were obtained in this way for efforts which were often distorting the structure of production and reducing the overall efficiency of the economy. While stocks of some commodities accumulated, shortages of others appeared.

As the result of the fulfilment of these various tasks the role of the expansion of gross industrial output as a goal of economic activity increased relatively to that of the reduction in costs and the maximization of value added. Gierek's appeals contributed, therefore, to further weakening of the criteria for increased efficiency and diverted attention away from those decisions which attempted to solve long-run problems, but which would remain unnoticed and unrewarded for the time being, to immediate quantitative gains in output. In this way this policy contributed to the difficulties which appeared in the years 1974-76.

The decision to improve the standard of living to a significant extent and to accelerate investment for modernization and restructuring of the economy was obviously successful during the first years and was very promising for the future. Unfortunately, increases in both were allowed to get out of control. The "new political style" more sensitive to various political and social pressures, a rapid increase in employment and the high level of economic activity associated with the big investment drive resulted in more rapid increases in money incomes of the population than those which had been planned for 1971-75. Nominal money incomes of the population increased from 473.4 billion zlotys to 883.0 billion, or by 409.6 billion, while the planned increase was only about 120 billion zlotys.<sup>57</sup> Increases in prices were relatively limited, although there are reasons to believe that the official index understates them, among other reasons, because of the methods by which prices are determined for real and apparent "new products." According to the official statistics real wages increased by 41.5 percent and the real income of the agricultural population by 23.8 percent between 1970 and 1975.

<sup>57</sup> Marzewski, *op. cit.*, pp. 55-61.

The planned increases for the period were 17 to 18 percent and 18 to 19 percent respectively.<sup>58</sup> An excess demand appeared in the domestic market for consumption goods and services.<sup>59</sup>

Disequilibrium was particularly great in the market for basic foodstuffs. The political decision to keep prices unchanged, induced additional demand for the relatively cheap commodities the supply of which had never been satisfactory. At the same time difficulties appeared on the supply side. They were partly caused by unfavourable weather conditions. The weather was not, however, the only cause for these difficulties. There was the adverse effect of the shortages of agricultural producer goods and of the lack of a sufficiently developed agricultural infrastructure, both the results of the past policy of neglecting agriculture, discriminating against the individual farmers in the supply of producer goods and creating instability as to the future of private farming. Bureaucratic interference with farming did not end in 1971 and it was often responsible for the waste of inputs or outputs.

Particularly strong adverse effect on the supply of agricultural products was exerted by an inept price and income policy. Considerable increases in incentives took place during the first two years of the five-year period (a drastic increase in the prices paid for contracted purchases in 1971 and the elimination of obligatory deliveries in 1972). This was the right move and it was very successful. Agriculture responded by significant increases in marketed production, particularly that of animal production. The myth that obligatory deliveries are necessary to keep a high level of marketed agricultural production and to prevent farmers from increasing their own consumption of their produce collapsed. Real consumption on the farm declined every year from 1971 to 1975 with an average annual rate of decline of -3.6 percent for the period as a whole (see Table X). Total marketed agricultural production increased by 10.1 percent in 1972 (the second highest annual rate since 1951) and 9.6 percent in 1973 (the fourth highest rate). Even more impressive was the response of the marketed animal production, which increased by 17.9 percent in 1972 (the highest rate since 1951) and by 9.7 percent in 1973 (the fifth highest rate) (see Table XVIII).

After 1971 the prices for contracted purchases of grains declined in 1972, increased to the 1971 level in 1973 and were below that level in the last two years of the five-year plan period, despite the bad weather conditions which pressed the free market prices to the levels exceeding the 1971 level (see Table VIII). The index of the relation between the prices sold and bought by agricultural population increased by only relatively moderate rates in 1972-75 (see Table IX). The plan envisaged a slightly larger increase in the real income of agricultural population than in real wages in order to reduce the gap between nonagricultural and agricultural incomes. The actual increase in the real income of agricultural population was not much greater than half of the increase in real wages (see above). The relative difference seems more important than the improvement in the absolute terms and there has been "an excessive outflow of young people from agriculture which resulted in losses in agricultural output."<sup>60</sup>

<sup>58</sup> "Piąty rok przyspieszonego rozwoju" (The Fifth Year of the Accelerated Development), *Gospodarka planowa*, No. 1, 1975, p. 1 and G. U.S., *Rocznik statystyczny 1976*, Warsaw 1976, p. 79.

<sup>59</sup> Wrzaszczyk, *op. cit.*, p. 8; Rakowski, *op. cit.*, p. 3.

<sup>60</sup> Wrzaszczyk, *op. cit.*, p. 15.

TABLE XVIII.—MARKETED AGRICULTURAL PRODUCTION (CONSTANT PRICES. ANNUAL RATES OF GROWTH)<sup>1</sup>

	Total	Plant	Animal
Year:			
1950.....	24.0	9.5	37.3
1951.....	-1.4	.3	-2.6
1952.....	-1.6	-2.3	-1.1
1953.....	6.0	-2.2	12.2
1954.....	2.6	3.9	1.8
1955.....	9.9	10.1	9.7
1956.....	3.9	-5.1	10.0
1957.....	6.0	0	9.5
1958.....	9.5	6.1	11.3
1959.....	-2.1	-3.4	-1.5
1960.....	6.3	14.3	2.3
1961.....	11.5	14.9	9.7
1962.....	-3.4	-10.7	.9
1963.....	.2	17.8	-8.9
1964.....	5.4	10.2	2.2
1965.....	8.1	4.0	11.1
1966.....	7.9	12.0	5.1
1967.....	3.3	5.2	1.8
1968.....	4.3	8.7	.9
1969.....	-3.5	-12.3	3.8
1970.....	3.4	7.1	.7
1971.....	4.6	6.4	3.5
1972.....	10.1	-2.9	17.9
1973.....	9.6	9.4	9.7
1974.....	5.3	-4.4	10.0
1975.....	1.3	3.8	.2
Average:			
1951-55.....	3.1	2.0	4.0
1956-60.....	4.7	2.4	6.3
1961-65.....	4.4	7.2	3.0
1966-70.....	3.1	4.1	2.5
1971-75.....	6.2	2.5	8.3

<sup>1</sup> Including agricultural products purchased by agriculture.

Source: GUS, Rocznik statystyczny 1972, p. 249; 1976, p. 229.

At least partly the increases in money incomes of the population were caused by the excessive rate of investment. Actual employment outside agriculture increased by 1,815,000 people, while the planned increase was 1,592,000 (the difference of 223,000). Over 80 percent of the unplanned increase was absorbed by the unplanned increase in employment in construction (354,000 actual, 168,000 planned and 186,000 unplanned increase). Average monthly wage in construction increased by over 59 percent and that in industry by 56 percent between 1970 and 1975.<sup>61</sup> One project alone, the construction of the new gigantic steel mill "Katowice," the largest investment project which has ever been undertaken in Poland represents 1,064 construction sites which employed 16,000 workers in 1974 and the number was expected to reach 25,000 in 1975. The decision to build this complex not gradually by stages, as for example a new steel mill of similar dimensions had been built in France at Dunkerque, but by the parallel construction of all its component divisions in one concentrated effort over the period of 54 months, taxed the productive capacities of the engineering and building enterprises to the limits<sup>62</sup> and must have created enormous inflationary pressures throughout the economy.

<sup>61</sup> M. Kabai, "Bariera zatrudnienia" (The Employment Barrier), *Zycie gospodarcze*, No. 41, 1975, p. 1 and *Rocznik statystyczny* 1976, p. 109.

<sup>62</sup> L. Froelich, "Nowa Huta do kwadratu" (Twice the Size of Nowa Huta), *Zycie gospodarcze*, No. 1, 1975, p. 10.

Because of the excessively "wide investment front" the authorities attempted to limit total investment in 1975 to 498 billion zlotys, which was about 150 percent higher than the volume of investment envisaged in the 1971-75 Plan for that year. In order to achieve this objective the Plan for 1975 reduced to a minimum the number of new projects which were to be started and gave priority to the completion of the most important investment projects which had been started earlier.<sup>63</sup> Despite these measures the actual amount of investment was 529.6 billion zlotys in constant 1971 prices.

This domestically generated inflationary situation was overimposed on the pressures and disturbances transferred from the world markets, despite various insulating layers of systemic nature and policies applied to strengthen the insulation of the economy from the impact of world stagflation.<sup>64</sup> It seems, however, that even in the absence of the pressures from outside the economy would have entered into serious difficulties, mostly because of an excessive rate of investment and the lack of sufficiently significant switch from the extensive to intensive pattern of development. The following assessment of the situation at the beginning of 1977 by the Chairman of the State Planning Commission supports this view:

Stresses and difficulties, with which we are faced at present, appeared against the background of a rapid pace of development, wide [investment] front and high rates of social and economic changes in the country, unfavourable climatic conditions for the growth of agricultural production in the last years and, since the middle of 1974, adverse conditions in international trade with the capitalist countries. These conditions are characterized by considerable increases in the prices of imported raw materials and equipment, as well as by the effects of an economic recession in the West, which has resulted in the limitation of our export of many raw materials and finished products. The cause for the stresses and difficulties included also deficiencies and shortcomings in the economic activity which expressed themselves in the excessive enlargement of the investment front in the lack of discipline in connection with employment and wages, in the insufficient utilization of existing production possibilities and raw materials, as well as in insufficient efforts to improve the quality of production.<sup>65</sup>

The appearance of the difficulties caused by the excessive rate of investment was delayed by the policy of borrowing foreign capital on a relatively large scale. This policy made the concurrent increase in investment and in the standard of living possible and it contributed, therefore, to the achievement of high rates of growth. By 1975 it became necessary, however, to control the rapidly increasing indebtedness of the country. Hard currency indebtedness increased from \$4.4 billion at the end of 1974 to \$7.1 billion at the end of 1975.<sup>66</sup> Poland had to start to repay these loans and to meet commitments in connection with its share in the financing of investment projects in the Soviet Union which it had undertaken in order to secure the supply of raw materials from these projects in the future.<sup>67</sup> The original plan was to move gradually from the negative to the positive balance of trade, over a long period, with the help of new Western credits which would cushion the pressure created by the repayment of earlier credits and commitments to the Soviet Union under the CMEA agreements.<sup>68</sup>

<sup>63</sup> "Piąty rok przyspieszonego rozwoju," p. 5.

<sup>64</sup> Fallenbuchl, Neuberger and Tyson, op. cit.

<sup>65</sup> Wrzaszczyk, op. cit., p. 8.

<sup>66</sup> Chase Manhattan Bank's calculations as of December 30, 1976.

<sup>67</sup> "Piąty rok przyspieszenia \* \* \*," p. 6.

<sup>68</sup> J. Olszewski, "Strategia rozwoju i kierowanie handlem zagranicznym" (The Strategy of Developing and Steering of International Trade), *Handel zagraniczny*, No. 11, 1975, p. 5.

It seems that later a political decision was made to eliminate the trade deficit already before the end of the new five-year plan for 1976–80. From a factor which facilitated greatly the expansion of the economy in the first half of the 1970's, the import of foreign capital has now changed into another reason for the appearance of the difficulties.

Similarly, the transfer of technology from the West on a relatively large scale, in the form of the most advanced machines and licences, contributed to the achievement of the high rates of growth. As, however, it was accepted, together with the import of foreign capital, as a substitute for the systemic reforms, it has also become partly responsible for the present situation.

The big investment drive, import of foreign capital and transfer of modern technology from the West appear to be the main reasons for the high rates of growth of production and improvements in the standard of living in 1971–75. It was only too easy to accept the early successes as the proof that these three aspects of the new development strategy, together with the improvement in incentives, the “new political style,” and the appeals to patriotism and self-interest, would be sufficient to effect an escape from the vicious circle without any far reaching systemic changes. It is possible, however, that this neglect of reforms has endangered the entire scenario. The role of intensive factors has still remained rather limited. The period of great increases in both labour and capital has passed. Increases in employment will be considerably smaller from now on. It may not be possible to expand further imports of foreign capital and, with the slower rates of growth, high rates of growth of investment would require the share of accumulation in national income which might be politically unacceptable. Shortages in the consumption market reduce the possibility of further substantial increases in the standard of living and limit the potential role of material incentives in the stimulation of growth and in the expansion of its intensive pattern.

The lack of systemic changes made it also difficult to select the efficient investment projects in connection with the expansion of the export sector. Although some improvements in the system of planning and management of foreign trade have taken place, the foreign trade machine is still relatively rigid and not very suitable for a dynamic expansion of exports to the West. These factors make the repayments of the Western credits more difficult than it was anticipated. An additional difficulty is provided by the fact that priority expansion was taking place in the electrical and mechanical industry which received 23.5 percent of all industrial investment in 1971–75 but was responsible for only 17.6 percent of total industrial export to the West, while the food industry, which received only 10.6 percent of total industrial investments contributes 15.5 percent of industrial exports to the West. In this situation a very large proportion of export to the West must be contributed by the fuel industry (coal), the further development of which is heavily capital intensive (see Tables XVII and V).

The understanding of all these difficulties is necessary for the discussion of the Plan for 1976–80 and its chances of success.

## VII. THE PLAN FOR 1976-80 AND GIEREK'S NEW ECONOMIC MANOEUVRE

The Seventh Party Congress, which was held in December, 1975, approved an outline of the Plan for 1976-80. The final version of the new five year plan and the annual plan for 1977 were together presented at the Fifth Plenary Meeting of the Central Committee held on December 1-2, 1976. The two plans were subsequently jointly discussed and duly approved by the Sejm (parliament). However, there was a considerable difference in the atmosphere in which the outline and the final version were discussed. The outline was unveiled in generally optimistic and self-congratulating speeches. The discussion of the final version was somewhat more grave.

Simple assurances that the new development strategy, presented as an unqualified success, would be continued during the next five years, were now supplemented by the presentation of a set of policies designed to eliminate the difficulties which had appeared at the end of the 1971-75 plan period. It became fashionable to talk about a "new economic manoeuvre" which, by analogy to Gierek's manoeuvre of 1971-72, was to be launched in order to solve the problems and to push the economy ahead to new successes.

In his speech at the Fifth Plenary Meeting of the Central Committee, Gierek repeated his commitment to the continuation of his strategy of increasing the economic potential of the country together with continuous improvements in the standard of living.<sup>69</sup> It seems, however, to be a performance of "Hamlet" without the prince of Denmark. The essential part of this strategy, as applied in 1971-75, was borrowing of foreign capital. The average rate of growth of the domestic net material product (the "produced national income") was 9.8 percent. Because of the borrowing of foreign capital, which resulted in an excess of import over export, the average rate of growth of the national net material product (the "allocated national income") reached 12.0 percent (see Table II). For 1976-80 the two rates are planned to be 7 and 4.8 percent respectively, with an excess of export over import being responsible for the difference. Instead of borrowing, a positive balance of trade is envisaged in order to repay loans and to meet various commitments undertaken under the CMEA agreements. It means that instead of an average of 12.0 percent, which could be allocated to increasing investment and consumption, only 4.8 percent will be available. This changes the essence of the strategy.

In order to secure a part of the increases in net material product available for domestic use for improvements in consumption "the main stress \* \* \* will be concentrated on better and further utilization of existing productive capacity" and improvements in labour productivity. Moreover, as has been stressed by Gierek, while in 1971-75 the achieved increases in labour productivity were the result of increased capital-labour ratio, in 1977-80 they will have to depend on "better organization of work".<sup>70</sup> The stress is, therefore, on the

<sup>69</sup> E. Gierek, "O konsekwentną realizację społeczno-ekonomicznego programu VII Zjazdu PZPR, o wyższą efektywność gospodarowania" (For the Fulfilment of the Socio-economic Programme of the Seventh Congress of the Polish United Workers Party Concerning Increasing Effectiveness of Economic Activity), *Nowe drogi*, No. 12, 1976, p. 16.

<sup>70</sup> *Ibid.*, p. 19.

quality of inputs and outputs and on increased effectiveness of economic processes.

In this situation systemic reforms should become an integral part of the strategy. Indeed Gierek mentioned in his speech that the improvements in the quality of economic processes should be supported by "further perfecting of the system of functioning the economy at all levels" and that "it will be necessary to combine to a greater extent administrative methods with economic-financial methods, which stimulate initiative of the staff of the enterprises and strengthen the feeling of responsibility for the activities which are undertaken."<sup>71</sup>

This obviously is only a lip service. No serious systemic reforms are envisaged for the period 1976-80. For the time being there seems to be no return even to the limited reforms which had been started in the first years of the decade. At least in 1977 the "new economic and financial system" will remain inoperative, the autonomy of the great economic organizations (WOG) will continue to be seriously limited and the use of command directives rather than the parametric steering will still be retained.

This seems to be a very severe limitation imposed on the strategy of development. While the borrowing of foreign capital and large doses of imported foreign technology were accepted as a substitute for reforms during the first half of the decade, considerable increases in the productivity of inputs are now expected to occur with an outflow of capital (a positive balance on current account), a drastic reduction in the import of foreign technology embodied in machines and equipment and this task is expected to be achieved still without reforming the system. It is doubtful whether this is a viable strategy.

The extensive factors of growth will not be able to play the same role as in the past. The labour force increased by 1,486 thousand in 1966-70 and by 1,815 thousand in 1971-75. The increase in 1976-80 is expected to be 1,100 thousand. Out of this total only 600 thousand will be available for the socialist sector (industry, construction, socialist agriculture, transport, communications, etc.). The badly neglected services and handicrafts are expected to receive 300 thousand people and an attempt will be made to attract 200 thousand to individual agriculture. In this situation employment in industry will be able to increase only by 170 thousand workers, which is almost four times less than the number by which industrial employment increased in 1971-75, and employment in construction is expected to decline. In order to achieve the planned increase in industrial output by 48 to 50 percent, the plan assumes an increase in labour productivity of 45 percent in industry and 50 percent in construction.<sup>72</sup> In 1971-75 gross industrial output per worker increased by 43.8 percent and construction output by 49.3 percent with very large increases in investment.

The targets of the new plan concerning increases in labour productivity are described as taut and possible to achieve only because of the enlargement and modernization of productive capacities, which took place in the preceding five year period, improved qualification of workers and a wider application of the system of rational

<sup>71</sup> *Ibid.*, p. 22.

<sup>72</sup> Wrzaszczyk, *op. cit.*, p. 15.

economic decisions.<sup>73</sup> It is, however, because it is difficult to utilize efficiently existing productive capacities and skills of workers, and to make rational economic decisions, in the traditional Soviet-type economies that the systemic reforms are important.

The labour force is not the only factor which will have to be economized in the current five year plan. It will also be difficult to obtain capital. The ratio of investment to net material product was reduced from 31.7 percent in 1975 to 28.8 percent in 1976. The plan for 1977 envisages the ratio of 27.4 percent and the five year plan expects a gradual reduction to 26.0 percent by 1980. Priority will, therefore, be given to those investments which have already been started, or which are of complementary nature, to investments "with lower capital intensity but great importance for the complex of the national economy, projects of an optimum size and high effectiveness of production."<sup>74</sup>

Again, it will be difficult to achieve these objectives without a considerable improvement in the investment processes which requires some bold systemic reforms. This is a very important point as the efficiency of investment will probably have a decisive importance for the success of the plan. For 1977 the planned share of investment is 27.4 percent and the rate of growth of domestic net material product 5.7 percent. This implies a marginal capital-output ratio of 4.81 percent. If the same ratio is applied to the whole period 1976-80, the achievement of the planned rate of growth of domestic net material product (7.0) would require an average share of investment of 33.7 percent and not the share of 27.1 percent which seems to be assumed in the plan. In other words, without a drastic reduction in the capital-output ratio in 1978-80 either the rate of growth of net material product would be considerably below the target rate (5.6 percent rather than 7.0 percent), or the share of investment would have to be increased, and the possibility of improving consumption would, therefore, disappear.

Similarly, the plan has been built on the assumption of significant reduction in the costs of production. In industry costs are expected to decline on average by 9.6 percent (as compared with 3 percent reduction in 1971-75) and in construction by 2.7 percent. As has been pointed out by the Chairman of the Planning Commission, "the results of the current five year period will depend, to a considerable extent, on the achievement of decisive progress in economizing fuels, energy and materials in every productive unit."<sup>75</sup> This would hardly be possible without the introduction of real economic calculations which require some far going reforms of planning and management.<sup>76</sup>

Because of the difficulties which appeared in 1974-76 it became, however, necessary to concentrate all efforts first on the short-run objective of the elimination of economic disequilibrium and ensuring a "harmonious development."<sup>77</sup> Indeed, it has been recognized that without a new economic manoeuvre it would not be possible to fulfil

<sup>73</sup> *Ibid.*, pp. 15-16.

<sup>74</sup> Gierek, *op. cit.*, p. 18.

<sup>75</sup> Wrzaszczyk, *op. cit.*, p. 16.

<sup>76</sup> This view is similar to that expressed by deputy J. Zablocki, vice-chairman of the parliamentary group "Znak", during the debate on the new five year plan in Sejm on December 17, 1976 (see the Sejm records).

<sup>77</sup> Gierek, *op. cit.*, p. 16.

“the goals and basic targets which were set by the Seventh Party Congress.”<sup>78</sup>

The plans of industrial production for 1977 were changed to increase the output of consumption goods for the domestic market. The enterprises were again encouraged to accept some “additional tasks” over and above the plan targets (in the fourth quarter of 1976 alone the value of the above-the-plan output of industrial goods for the domestic market represented 10 billion zloty).<sup>79</sup> As has been pointed out above, this is a dangerous policy which substitutes gross output for value added as an effective success indicator and results in short-run achievements at the expense of long-run tasks, particularly in the field of increased efficiency.

In 1976, 8 million tons of grain and fees were imported and the import was expected to continue for another year. The decision was also made to import “considerable quantities” of meat and animal fats. An important immediate task is the rebuilding of livestock, particularly the stock of hogs which declined by 3 million in 1976, and to ensure an expansion of the domestic production of feeds. More favourable prices have been offered to the farmers and attempts are made to make individual farming more attractive for young people.

The short-run measures are supplemented by the expansion of industrial inputs for agriculture and improvement in the agricultural infrastructure. A great stress is placed on the expansion of agricultural production in order to reduce the import of agricultural products in the subsequent years. The plan envisages an increase in gross agricultural production by 16 to 19 percent between 1975 and 1980, including 20 to 23 percent increase in crops and 13 to 16 percent in animal production. The fulfilment of the plan in this sector remains, however, a sensitive problem.<sup>80</sup>

Despite the increase in the prices paid to the farmers, the prices of basic foodstuffs charged to the population remain below the cost level. The total amount of budgetary subsidies for the food sector (the relevant part of agriculture and food industry) was 140 billion zloty in 1975, 170 billion in 1976 and it is expected to reach 205 billion in 1977 (about 12 percent of the domestic net material product, or about 70 percent of an average price paid by the population for these items).<sup>81</sup> Although there have been some statements about the necessity of introducing a flexible price policy,<sup>82</sup> any changes in this field are apparently still regarded as politically dangerous.

Finally, the decision was made to add 50,000 accommodations to the target of 1,525,000 accommodations which had been set by the Seventh Party Congress.<sup>83</sup>

In this way three areas have been granted priority: (1) agriculture and the whole food producing complex; (2) production of manufactured consumption goods and services; and (3) housing. Changes in the plan required modifications in the investment plan for 1976-1980. A number of projects were eliminated and some of the already ap-

<sup>78</sup> Wrzaszczyk, *op. cit.*, p. 8.

<sup>79</sup> Gierek, *op. cit.*, p. 16.

<sup>80</sup> Wrzaszczyk, *op. cit.*, p. 11.

<sup>81</sup> *Ibid.*, p. 9.

<sup>82</sup> See, for example, S. Chelstowski, “Elastyczna polityka cen” (A Flexible Price Policy), *Zycie gospodarcze*, No. 33, 1976, pp. 1-2.

<sup>83</sup> Wrzaszczyk, *op. cit.*, p. 13 and S. Chelstowski, “Gospodarka 1976-1980” (The Economy in 1976-1980), *Zycie gospodarcze*, No. 51/52, 1975, p. 2.

proved projects were delayed or their construction was slowed down. In the place of the projects which had lost their priority, some new projects were introduced. They included, however, not only investments in agriculture, the agricultural machine industry, which clearly correspond to the list of priorities, but also investments in coal mining, energy and in metallurgical industry, the latter explicitly made "in order to accelerate a reduction in import from capitalist countries."<sup>84</sup> In order to include the additional targets in housing and to expand the production of manufactured goods for the domestic market the total amount of investment for 1967-80 was further increased. The Seventh Congress approved the sum of 2,640 billion zloty (about 37 to 40 percent above the total volume of investment in 1971-75). At the new prices of investment goods, which have been introduced since the Congress took place, this amount is equal to 3,120 billion zloty. It was increased, as the result of changes introduced at the Fifth Plenary Meeting, to 3,207 billion zloty.

The above changes in the investment plan provide some important insights. First of all, the final version of the plan is more consumption oriented than its preliminary draft. To this extent the leadership is responding to economic and political pressures which appeared particularly in 1976.

Second, despite all the statements about investment discipline, the necessity to keep investments limited in order to reduce pressures and to shift to a "harmonious development" and dependence on "intensive factors," some additional investment projects were simply added to the existing programme. This decision shows a lack of determination and suggests that some further increases in investment will likely take place during the implementation of the plan. It is the traditional reaction of the central planners who are faced with some unexpected difficulties to increase investment with the resulting adverse effects on consumption. The decision also suggests that the plan will remain to be very "taut," pressures will not be eliminated and some serious disturbances in its implementation may be expected.

Third, the final version of the plan implies an increased degree of import substitution. It envisages a reduction in the dependence on imported grain and feeds, as soon as it would be possible, but also a reduction of import of metallurgical products by 40 percent during the plan period.<sup>85</sup>

This last change in the investment plan reinforces the overall strategy of the plan. It is definitely a more inward looking plan than the plan for 1971-75. It envisages not only a reduction in the import of various raw materials but also in the import of foreign technology embodied in machines. While total industrial production is planned to increase by 48 to 50 percent, the output of the engineering industry is expected to increase by 66 percent and that of the chemical industry by 65 percent. The share of these two branches of industry is expected to increase from 35 percent of total industrial output to 39 percent in 1980. It is expected that domestic production of machines will be responsible for 74 percent of the investment demand in 1980, as compared with 66 percent in 1975.<sup>86</sup>

<sup>84</sup> Wrzaszczyk, *op. cit.*, p. 13.

<sup>85</sup> *Ibid.*, p. 9.

<sup>86</sup> *Ibid.*, p. 11.

It is a serious mistake to attempt to enforce autarky in respect of machines and equipment in a country of Poland's size and level of development. This would be a dangerous policy for any country in the second half of the twentieth century. The planners probably assume that a discrete, once and for all increase in the level of technology was all that the economy needed. They seem to believe that they have modernized industrial productive capacity to such an extent that further import of foreign technology on a large scale is unnecessary. It is, however, the very nature of modern technological progress that it is a continuous process.<sup>87</sup> There is no point of transferring a particular level of technology, by importing machines and equipment or licenses, unless it is going to be continuously improved upon and advanced. Machines, equipment, component parts and materials from various countries must often be used for best results. There is also the problem of the economics of scale in both production and research and development. For many processes even the largest countries cannot provide a sufficient market without export.

It was one of Gierek's greatest achievements, an essential part of his new development strategy and one of the main reasons for the successes of that strategy, that he opened the Polish economy to the West, particularly in respect of the import of machines. Under the combined impact of the economic disturbances in the world economy, stresses created, above all, by the excessive rates of investment and, probably, political pressures from the Soviet Union, this part of the strategy is now going to be modified.

### VIII. ECONOMIC AND POLITICAL INSTABILITY

There is no doubt that the Polish economy faces some serious difficulties. The situation is, however, far from catastrophic. According to the calculations of the Chase Manhattan Bank (as of December 1976), Poland's total hard currency indebtedness at the end of 1975 was 7.6 billion dollars. The ratio of net indebtedness to the volume of hard currency export was 2.1 as compared with the ratio of net debt to total exports of, for example, 6.0 for Mexico, 3.2 for Turkey, 3.1 for Chile and 2.6 for Argentina and Peru. Moreover, some loans were advanced for the expansion of the mining of coal, copper or sulphur and are directly or indirectly secured by the export of these commodities. Some other loans were secured by the export of parts and other products which are manufactured under industrial cooperation agreements or other arrangements which facilitate their placing in the Western markets.

After two and half decades of basically autarkic policies the country was opened up, to a much larger extent, to trade with the West. The heavily protected and subsidized industry experiences, quite naturally, considerable difficulties in competing in the world markets. It requires more time to strengthen its position, to acquire experience, to find viable lines of specialization. The economy started to benefit from the import of Western technology and from international contacts without which scientific and technological research cannot expand.

<sup>87</sup> This problem has been discussed by the author in Fallenbuchl, "Recent Economic Developments in Eastern Europe."

All these tasks should be easier now because, as the result of the developments in 1971-75, some restructuring of industry, modernization and enlargement of productive capacity, and improvements in skills and experience took place. However, these changes did not go deep enough and they should be continued to give full results. The present situation requires a slower pace to eliminate excessive pressures; further borrowing of foreign capital in order to reduce the adverse impact of excessively rapid repayments of debts and to maintain the policy of expanding investment and improving the standard of living; expansion of the pro-export production, not according to a priori decisions of the central planners but "from below" by responding to foreign demand and profitable opportunities detected by the enterprises; opening up of the economy to an even greater extent and slow and gradual integration with the world economy. A realistic and "outward looking" development plan and some bold systematic changes seem necessary at this stage in order to effect a switch from the "extensive" to an "intensive" pattern of development.

Unfortunately, the plan for 1976-80 goes in the opposite direction. It is a "taut" plan. Some new pressures will undoubtedly appear making the achievement of the relatively moderate improvements in the standard of living difficult. It is an "inward looking" plan which intends to expand import substitution. It is an impatient plan. It envisages an increase in export by 75 percent and a drastic reduction of the increase in import to 26 percent in order to move from a heavy negative balance on current account to a positive balance before the end of the plan period, although such policy may easily choke the growth of the economy and further endanger the fulfilment of the investment and improvement of standard of living tasks. It is an unrealistic plan in its expectations as to the possibility of achieving the rate of growth of export to the West of 14 percent per annum with a considerable increase in the share of machines and equipment in that export.<sup>88</sup> It is finally, a disappointing plan because of its neglect of systemic reforms which are necessary for the fulfilment of its main objectives.

It is, therefore, possible that the Polish economy may encounter very serious difficulties during the second half of the decade with a considerable adverse pressure on the standard of living.<sup>89</sup>

If this would indeed happen, then a very high degree of economic and political instability could be created. Any really serious political outburst in Poland may, however, easily assume international dimensions and may become a danger to peace. It is, therefore, in the interest of the Soviet Union not to discourage some far-going economic reforms in Poland. These reforms are absolutely necessary in order to avoid a serious crisis. It is also in the interest of the Soviet Union not to insist on the fulfillment by Poland of her obligations in connection with the financing of investments in the Soviet Union under the CMEA agreements, as these commitments create an excessive burden for the Polish economy at a very difficult moment. On the contrary, the Soviet Union should continue to grant some additional loans and to encourage Poland to apply for new credits in the West.

<sup>88</sup> Wrzaszczyk, *op. cit.*, p. 14.

<sup>89</sup> Some comments on the long-run prospects of the Polish economy have been presented by the author in Z. M. Fallenbuchi, "Poland in the Last Quarter of the Twentieth Century," *Slavic Review*, v. 34, No. 4, 1975, pp. 775-781.

It seems that in order to avoid the emergence of a potentially dangerous and explosive situation in the middle of Europe, it is also very much in the interest of the West to continue the present policy of trade liberalization towards Poland, to advance additional loans, and to expand scientific and technical exchange, with perhaps a subtle encouragement for the rapid introduction of some significant economic reforms and a greater degree of rationality of the plans in that country.

# ROMANIA'S FOREIGN TRADE: AN OVERVIEW

BY JOHN MICHAEL MONTIAS \*

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### I. INTRODUCTION

The structure of the foreign trade of any country is the resultant of many complex forces, which can be conveniently studied, as a preliminary to determining their quantitative impact, by first classifying them into three broad groups of explanatory variables: environmental, systemic, and policy-derived.

The first group can be subdivided into factors belonging to the *initial* and those belonging to the *contemporary* environment, a distinction requiring an *a priori* definition of the period of analysis. If we wish to analyze Romanian foreign trade in the 1970's, for example, we may take the relative under-investment in agriculture of the fifties and sixties and its consequences for the stock of fixed and human capital in this sector as components of the initial environment. If, on the other hand, our concern were with foreign trade in the entire period 1960 to 1975, we should consider the capital stock in agriculture for this entire span of years as subject to policy choices and no longer as completely exogenous. Clearly, in any event, the policies and system features of one period shape the initial environment of the next, and hence the relative comparative advantage of the different goods produced therein.

The principal factors in the contemporary environment of Romania that affect foreign-trade decisions include 1) membership in CMEA, 2) the dominant position of the USSR in CMEA, 3) the preferences—autarkic proclivities, political slant on trade—of the Soviet Union and of the other fellow-members of CMEA, 4) world prices and their lagged adaptation *cum* adjustments in intra-CMEA transactions, 5) Western income levels (e.g., the slump in demand for Romanian goods occasioned by the European recession of 1974–1975), and 6) world political conditions (*détente*, the state of USSR-China relations, the special relations of Albania and Yugoslavia with Romania, and so forth). Besides these external conditions, the contemporary environment also encompasses the weather and the other “states of nature” that influence agricultural output and hence trade in farm products.

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The system, viewed as a set of rules and institutionalized ways of managing economic affairs, influences trade outcomes in a variety of ways. The monopoly of foreign trade in all socialist countries and the varying degrees of centralization that attend it make for a greater or smaller degree of isolation of socialized enterprises both from their foreign suppliers and clients. Whatever might be the preferences of the planners for domestically produced over externally supplied goods, isolation causes many items not to be traded by reason of the lack of information concerning their availability or the demand existing for them abroad. Failure also often results when the bureaucratic difficulty of acquiring products from or selling them to foreign enterprises is too great for producers to overcome. We would therefore expect that large, sustained requirements or demands will be more easily transacted in such a system than small, sporadic ones.

The system determines whose preferences (defined as elements of the contemporary environment) will prevail in making decisions on foreign trade. In Romania basic decisions on the volume and structure of trade are made by the Council of Ministers. In the 1960's, implementation of basic policies was carried out and disaggregated decisions were made chiefly by the Ministry of Foreign Trade and by thirty-seven foreign-trade enterprises.<sup>1</sup> In 1970 some devolution of responsibilities in the area of foreign trade took place. Thirty-two out of the thirty-seven foreign-trade enterprises were detached from the Ministry of Foreign Trade and subordinated either to a production centrale (roughly equivalent elsewhere in Eastern Europe to an "association") or to a branch ministry.<sup>2</sup> According to David Granick, by 1973 there were seventy-six Romanian organizations authorized to engage in foreign-trade operations, of which at least twenty-one were individual centrale.<sup>3</sup> However this may have looked on paper, the actual autonomy of these sub-ministerial bodies was narrowly circumscribed. Because payments to centrale for exports, for example, were based on the official exchange rate or on a constant multiple of this rate, and 95 percent of the profits or losses arising from transactions were syphoned into or paid by the budget, centrale had no incentive and could not be relied on to give preference in directing their export sales to countries whose currencies were critically needed to balance accounts and to steer sales away from countries with which Romania was running an inconvertible surplus. To manage the balance of payments efficiently the planners in the central apparatus had to approve many decisions on the composition and direction of trade that they had little manpower or time to make themselves. Some of these decisions then devolved on the branch ministries. But the latter also tried to minimize their bureaucratic burden by giving preference to long-term agreements over ad hoc deals that absorbed too much of their very limited decision-making resources.<sup>4</sup> Thus the system, uncomfortably posited between the extremes of centralization and decentralization, and suffering from some of the disadvan-

<sup>1</sup> Some of these enterprises were specialized in import or export (e.g., Masinimport and Masinexport), whereas others carried out both imports and exports (e.g., Mineratimport-export, which exported goods valued at 188.8 million lei and imported goods valued at 563.4 million lei in 1966, according to official statistics).

<sup>2</sup> David E. Granick, "Enterprise Guidance in Eastern Europe: A Comparison of Four Socialist Economies" (Princeton: Princeton University Press, 1975), p. 82.

<sup>3</sup> *Ibid.*

<sup>4</sup> *Ibid.*, p. 84.

tages of both, had the effect of pressing trade into the well-worn grooves of long-term contractual arrangements, which, other things equal, biased decisions in favor of transactions with other centralized economies at the expense of deals with free-market agents. As we saw earlier, the isolation of enterprises from their suppliers and their clients abroad—to the extent that producers had any say at all in foreign-trade decisions—reinforced this bureaucratic bias.

The foreign-trade policies issuing from the Council of Ministers derived in large part from the industrialization campaign on which Romania has been bent these last thirty years. But they also exerted an independent protectionist influence to the extent that the implicit prices placed on domestically produced goods, including intermediate products and equipment, were higher than if these goods had been imported. Similarly, the prestige of exporting machinery and equipment has been so high in the eyes of the planners that such exports have probably been pushed farther than the policy of industrialization—had it been neutral with respect to trade—would have warranted.

Section II below describes the main links between industrialization and foreign trade. Section III analyzes the geographic distribution of Romania's trade among the Soviet Union and the rest of CMEA, other socialist countries, the developed Western world, and the developing nations. The paper concludes with a detailed discussion, in section IV, of some of the problems Romania has encountered in reducing the deficit in her machinery trade. This last section makes it evident that policies shaping the micro-structure of trade cannot be mechanically deduced either from Romania's general industrialization policy or from the environmental forces that constrain its implementation.

## II. INDUSTRIALIZATION AND FOREIGN TRADE

According to official statistics, Romania's net material product (NMP) grew at an average rate of 9 percent per year both from 1960 to 1965 and from 1965 to 1973.<sup>5</sup> An index of Gross National Product reconstructed by Thad Alton and his associates from sectoral data shows a rate of growth of 5 percent per year in the first period and 6 percent in the second.<sup>6</sup> The sizable difference between the two measures of aggregate performance is due in part to the inclusion in the Alton index of slow-growing services excluded from official NMP and the greater weight given to the farm sector, which expanded at a very sluggish pace during this period. (The net output of agriculture was virtually constant from 1960 to 1970, then shot up by 9.8 percent per year from 1970 to 1973.) From 1960 to 1972, industry grew at 12.6 percent per year according to the official index of gross output and at 10 percent per year according to the reconstructed Alton index of value added in industry, with only a slight retardation perceptible between the first five and the last seven or eight years of the entire period.<sup>7</sup> According to official estimates, NMP and gross industrial

<sup>5</sup> Direcția Centrală de Statistică, "Anuarul Statistic al R. S. R., 1976" (Bucharest: 1976), p. 53. The official statistical yearbooks will henceforth be cited as A. S. and the date.

<sup>6</sup> Thad P. Alton, "Economic Growth and Resource Allocation in Eastern Europe," in "Reorientation and Commercial Relations of the Economies of Eastern Europe," A Compendium of Papers presented to the Joint Economic Committee, 93rd Congress, 2nd Session (Washington, D.C.: Government Printing Office, 1974), pp. 274-75.

<sup>7</sup> *Ibid.* and A. S. 1975, p. 90.

output continued their rapid progress from 1973 to 1975 at rates slightly in excess of those recorded in the early 1970's (13.8 percent from 1973 to 1975 as against 11.8 percent from 1970 to 1972). The independent Alton measure of GNP, which is more sensitive to fluctuations in farm output than the official NMP, grew at a rate of 5.6 percent from 1973 to 1975, a shade below the performance of 1965-1973. The rate of growth of value added in industry was about the same, according to this measure, as in the preceding period.<sup>8</sup>

Foreign trade turnover (imports plus exports) valued in current *devisă* prices kept pace with industrial output, rising by 11 percent per year from 1960 to 1972. No indexes of prices in Romanian trade have been released for this entire period. According to a unit-value index prepared by the Romanian Ministry of Foreign Trade, export prices rose and import prices dropped by about 3 percent from 1960 to 1966.<sup>9</sup> Hungarian export prices were more or less constant and import prices rose by perhaps one percent per year from 1966 to 1972. The evolution of Romanian prices was probably much the same. For the entire period 1960 to 1972, therefore, it is unlikely that the growth of the current-value of foreign trade significantly overstates the real momentum of the sector. From 1972 to 1975 however, prices rose rapidly in the world market and, from 1975 on, in the CMEA market as well. The increases in the current value of foreign trade were officially estimated at 38.9 percent in 1973, 38.3 percent in 1974 and 6.6 percent in 1975. When deflated by an index based on Hungarian indices for four commodity groups in trade with the dollar and ruble areas, aggregated according to the approximate shares of these groups and areas in Romanian imports and exports, these very large percentage increases in current value are reduced to 14 percent in 1973 (exports: 17 percent, imports 10 percent), 12 percent in 1974 (exports 8 percent, imports 19 percent), and a bare 1 percent in 1975 (resulting from a 3 percent increase in exports and a 1.5 percent decline in imports). However approximative the price indexes on which these deflated figures are based, it is manifest that the growth rate of trade slackened appreciably in the period 1973-1975 (from an average of 11.2 percent for total trade turnover from 1960 to 1972 in current prices, which remained fairly stable in the period, down to 6.7 percent for the years 1972-1975). Imports in this more recent period probably did not keep up with industrial production.

In general, however, the forward momentum developed by the Romanian economy in the first half of the 1960's was maintained into the 1970s. The economy, as in the past, was propelled by the rapid expansion of industry and construction, which pulled the remaining sectors, with the exception of agriculture, in its wake. It is only in the period 1971-1974 that the large investments allotted to the farm sector in the 1960's began to pay off.<sup>10</sup>

<sup>8</sup> A. S. 1975, pp. 57, 93; "Revistă economică," no. 5 (1976), p. 4; and Thad P. Alton, et al., *Economic Growth in Eastern Europe 1965-1975*, Occasional Papers of the Research Project on National Income in East Central Europe, no. OP-50 (New York: L. W. International Financial Research, Inc., 1976), p. 11.

<sup>9</sup> Official Romanian statistics.

<sup>10</sup> The farm sector, since collectivization was completed in 1962, remains backward. A comparison of the value of production per hectare in different CMEA countries shows that Romania lags appreciably behind Bulgaria and Hungary in this respect. The ratio of productivity per laborer in agriculture to productivity per laborer in industry turns out to be much lower in Romania than in any other East European country (22 percent in 1972, compared to 30 percent in Poland and 47 percent in Bulgaria). "Revistă economică," no. 16 (1974), p. 16.

Growth, again as in the past, was pressed forward by very high rates of capital accumulation, officially estimated, in relation to NMP, at 25.5 percent in 1961–1965, 29.5 percent in 1966–1970 and 34.1 percent in 1971–1975.<sup>11</sup> The fixed assets in industry rose by 12.7 and employment by 5.0 percent per year from 1966 to 1973. With any reasonable weights we might use to combine capital and labor, we find that total factor productivity increased by 4.5–5.5 percent per year if we use the official data on net material product arising in industry and at 2–2.5 percent if we use Alton's estimates. In either case, the growth of productivity was on a high level and showed but a slight retardation, compared to the performance of the early 1960s.<sup>12</sup> Real wages of employees in state enterprises and (non-agricultural) co-operatives, according to the official index which is subject to some upward bias due to the use of an index of retail prices as a deflator which may underestimate the full extent of price increases in the retail market, rose by 3.6 percent per year in the period 1970 to 1975, on a par with the previous five years but below the record growth of 4.1 percent per year achieved in the period 1960–1965.<sup>13</sup> The real incomes of collective farmers (from their work on the collective and on their private plots) inched up by 1 percent per year in the period 1965 to 1970, then increased by 10.7 percent per year from 1970 to 1975 according to recently released official estimates, the difference between the two periods reflecting the significant improvement in farm performance of the early 1970's. It should also be kept in mind that the absolute population engaged in agriculture has been declining (at the rate of nearly 5 percent per year from 1970 to 1975, or nearly twice the rate of the 1960's), so that large numbers of exfarmers are now acceding to the higher levels of living enjoyed by urban dwellers.

Dramatic changes have taken place in the commodity structure of Romania's foreign trade in the course of industrialization.<sup>14</sup> Until the early 1960's, Romania was a net exporter of raw materials and foodstuffs and a net importer of manufactures. By 1973 it was exporting a slightly larger volume of manufactures, including chemicals, than it was importing; but, like all East European members of CMEA, it was running a very large deficit in industrial raw materials. This deficit was paid for, in the main, with exports of processed and unprocessed agricultural products. It is instructive to examine this transformation in greater detail on the basis of the breakdown of trade into nine commodity groups according to the official CMEA nomenclature.

From 1960 to 1973, total imports and total exports both expanded at an average rate slightly in excess of 10 percent per year. Imports of fuels, mineral raw materials, and metals (group 2 of the CMEA nomenclature) during this same period increased (fairly regularly) at an average rate of 8.9 percent,<sup>15</sup> while exports of these materials rose

<sup>11</sup> A. S. 1976, p. 53.

<sup>12</sup> Cf. the data in John Michael Montias, "Economic Development in Communist Rumania" (Cambridge, Mass.: The MIT Press, 1967), p. 56.

<sup>13</sup> A. S. 1976, p. 76.

<sup>14</sup> Unless otherwise indicated, reference is to the value of foreign-trade aggregates in current *devisă* prices.  
<sup>15</sup> Note that this rate of increase was slightly less than that of the Alton index of industrial output and roughly a third less than the official index of net output. An index of exogenous materials consumed in industry, in which imported materials were given a preponderant weight, lagged substantially behind our independently constructed index of industrial output for the benchmark years 1950, 1955, 1958, and 1963 (Montias, "Economic Development in Communist Rumania," p. 56).

(less regularly) at nearly half this rate (4.7 percent per year). Exports of petroleum products, which amounted to two-thirds of the value of these raw-material and semifabricated exports in 1960, had fallen to a third by 1972. They stagnated at or fell below 1960 levels until the price windfall of 1973.<sup>16</sup> In sum, the net deficit in the raw materials and metals group increased at a rate of over 4 percent per year from 1960 to 1973. Much the same evolution may be observed in the case of trade in raw materials used in light industry—group 5, including cotton, wool, leather hides, and sundry agricultural raw materials other than foodstuffs. The 1960 surplus was converted into a growing deficit, which rose at nearly 4 percent per year in the period 1960 to 1973. It is interesting to note that imports of raw materials for light industry increased at an average of 9.1 percent per year from 1960 to 1973, a rate only slightly inferior to the officially recorded rate of growth of light industry (group B) in the period.<sup>17</sup>

Exports of raw materials for the production of foodstuffs (group 7) increased very irregularly, owing to fluctuations in harvest yields and in the size of animal herds. Over the entire period 1960 to 1973, they grew at an average rate of 5.5 percent, hitting a first peak in 1967 which was only surpassed in 1973.<sup>18</sup> Exports of processed foodstuffs (group 8) rose both more rapidly (11.5 percent per year) and much more steadily<sup>19</sup> than exports of raw materials for the production of foodstuffs. Even the high average rate of increase for this group was exceeded by the growth rate for exports of chemicals (19.5 percent per year), manufactured consumer goods (20.7 percent per year), and machinery and equipment (14.0 percent). Imports of manufactured goods expanded quite a bit more slowly than exports, averaging about 9 percent per year for chemicals and consumer goods, and 11 percent for both machinery and processed foodstuffs.

Since 1972–1973, the net supply of “hard goods” (raw materials, semifabricates, and foodstuffs) turned from a trade surplus of about one billion lei (166 million dollars) to deficits of 538 million lei in 1974 and 1.5 billion lei in 1975 (roughly 340 and 980 million lei respectively at 1971 prices).<sup>20</sup> In this recent period, exports of raw materials for the foodstuff industry stagnated, fluctuating around 1 billion lei in 1971 prices, but processed foodstuffs, including meat and meat products, rose from less than a billion lei in 1972 to 2 billion in 1973 and 2.9 billion in 1974 (all at estimated 1971 prices). They then receded to 2.1 billion lei in 1975, a poor year for agriculture due to extensive floods. If it had not been for much higher exports of processed foodstuffs in these last years, the deficit in hard goods caused by steadily rising imports and declining exports of raw materials for heavy industry would have been much worse than it turned out to be.

<sup>16</sup> The petroleum industry, spearheaded by its oil-refining sector, expanded at approximately 4 percent per year from 1966 to 1972, but domestic requirements must have increased at an even faster rate.

<sup>17</sup> The textile industry grew at approximately 11 percent per year during the period. This rate of expansion is meaningful on the reasonable assumption that prices of raw materials for light industry, expressed in foreign-exchange lei, were roughly on the same level at the beginning and end of the period.

<sup>18</sup> The coefficient of variation of this estimate was equal to 40 percent, denoting a good deal of irregularity.

<sup>19</sup> The coefficient of variation of this estimate was less than 5 percent.

<sup>20</sup> Current values of imports and exports of foodstuffs (both raw and processed) were deflated by indexes of Hungarian foreign-trade prices (Központi Statisztikai Hivatal, Külkereskedelmi statisztikai évkönyv, Budapest: 1975), pp. 410–12; *Statisztikai havi közlemények*, no. 3/4 [1975]: 92). These indexes distinguish, for both imports and exports, trade in rubles and trade in “dollars and other accounts.” I assumed, for the purpose of these rough calculations, that the ruble area coincided with CMEA and the rest of the world with “dollars and other accounts.” To the extent that Romania’s trade with CMEA was actually carried on in dollar accounts (as in the case of certain transactions in foodstuffs), this assumption leads to an underestimation of price increases in trade with CMEA in the period 1973–1975.

Over the last fifteen years, the trends in trade and domestic production can be summarized very simply. By and large, domestic consumption expanded faster than domestic output for the products of the less rapidly growing sectors including mining and agriculture; it expanded more slowly than output for the more rapidly growing sectors including machine-building, chemicals, and manufactured consumer goods, the disparity between the two rates being much greater for consumer goods than for machines and chemicals in heavy demand in a period of overall rapid expansion. Manufactured foodstuffs proved to be something of an exception, their exports expanding at a rapid pace despite the under-average growth of their domestic output (6.4 percent per year from 1960 to 1974 according to the official index).

This last exception notwithstanding, the generalization may be upheld that foreign trade has tended to reduce substantially the disparities in the growth of consumption in different sectors that would have occurred if domestic output had been the only source of supply. Insofar as these outcomes resulted from planning decisions, the strategy revealed by these observations consisted in importing enough raw materials and semifabricates, as a supplement to domestic inputs, to satisfy the needs of a very rapidly growing manufacturing industry and in using exports of manufactured products to pay for as large a proportion as possible of the import bill. In the sphere of consumer goods, trade was used to smooth out exogenous fluctuations in supplies (particularly in foodstuffs) and, by keeping the rate of increase in household consumption lower than it would have been in the absence of trade, to generate resources for growth. The rapid growth of exports of foodstuffs in the face of sluggish progress in farm output was of course rendered possible by the steep rates of investment that depressed the domestic consumption of foodstuffs and made them available for export.<sup>21</sup>

### III. THE GEOGRAPHIC ORIENTATION OF ROMANIA'S TRADE

To implement the strategy of trade outlined at the end of the last section, a country must find partners willing to run accommodating surpluses or deficits in the appropriate commodity groups. For Romania, the choice of partners—and the possibilities of carrying out its strategy—was influenced by the following considerations.

(1) The Romanians wanted to import equipment of the highest quality and of the most modern types, principally available in the Western industrialized economies.

(2) Their manufactures were not of sufficient quality to pay for more than a fraction of their imports from the advanced Western countries.

(3) They were less discriminating in their specifications concerning imported consumer goods and were therefore willing to import mediocre-quality goods in this group from CMEA and their socialist partners.

(4) Their possibilities of trading manufactured exports for raw-material imports with CMEA members other than the USSR

<sup>21</sup> The widespread meat shortages of the second half of 1975, which are said to have touched off popular disturbances in Romanian provincial centers, were probably caused at least in part by this export drive.

were severely restricted by the efforts of their partners to accomplish the same ends for themselves.

(5) Short- and medium-term commercial and private-bank credits, long-term official credits (including IMF), and earnings from tourism facilitated Romanian imports from industrialized market economies and made it possible for Romania to run deficits in merchandise trade with these partners.

The data in table 1 show the geographic distribution of Romania's trade that took place after 1960.

TABLE 1.—EXPORTS TO AND IMPORTS FROM MAJOR AREAS BY COMMODITY DIVISIONS (CTN) IN 1960, 1966, 1971, AND 1973

[In millions of current devisa lei]

	Exports				Imports			
	1960	1966	1971	1973	1960	1966	1971	1973
<b>Division I—Machinery to:</b>								
CMEA .....	456	926	1,793	3,205	924	1,595	2,917	3,733
Other Socialist .....	167	207	527	NA	13	34	69	NA
Developed capitalist .....	3	26	230	364	325	1,352	2,292	3,349
Developing countries .....	91	77	362	NA	2	36	NA	NA
Total † .....	716	1,235	2,912	4,539	1,263	2,983	5,315	7,338
<b>Division II—Raw materials and semifabrics to:</b>								
CMEA .....	1,659	1,719	2,050	2,469	1,442	1,868	2,330	2,755
Other Socialist .....	104	187	525	NA	148	142	449	NA
Developed capitalist .....	578	1,122	1,982	2,790	525	1,251	2,281	3,727
Developing countries .....	103	357	571	NA	112	275	691	NA
Total † .....	2,443	3,385	5,128	6,679	2,227	3,535	5,750	8,243
<b>Division III—Foodstuffs to:</b>								
CMEA .....	509	693	792	998	117	76	263	248
Other Socialist .....	31	14	14	NA	20	44	279	NA
Developed capitalist .....	316	877	1,342	1,988	34	55	291	183
Developing countries .....	38	101	98	NA	25	53	85	NA
Total † .....	894	1,686	2,247	3,857	196	228	917	1,020
<b>Division IV—Industrial consumer goods to:</b>								
CMEA .....	210	648	1,413	1,784	157	308	333	347
Other Socialist .....	5	19	43	NA	20	98	151	NA
Developed capitalist .....	19	104	716	1,460	23	113	123	217
Developing countries .....	15	40	148	NA	15	28	NA	NA
Total † .....	249	811	2,320	3,500	201	533	634	817
Total, all groups .....	4,302	7,117	12,606	18,576	3,887	7,279	12,616	17,418

† Minor differences between sums for each year and their totals are due to rounding error.

Note: CMEA includes Bulgaria, Czechoslovakia, German Democratic Republic, Hungary, Poland, Romania, and the U.S.S.R. together with Mongolia since 1962 and Cuba since 1972. "Other Socialist countries" are Albania, China, North Korea, North Vietnam, Yugoslavia, and Cuba in 1966 and 1971. Advanced capitalist countries comprise all of non-Socialist Europe plus the United States, Canada, Japan, and Australia. Developing countries are all other countries not listed above including New Zealand and Israel. A minor revision of the CMEA (CTN) classification took place in 1971. Figures available for both the old and the revised classifications for 1970 show that its effect was to raise exports of machinery by 1 percent and imports by 2 percent at the expense of division II. Trade in foodstuffs (division III) was also increased by less than 1-percent as a result of the removal of tobacco from division II and its transfer to III. The data in the table for 1960 and 1966 correspond to the old and for 1971 and 1973 to the revised classification.

Trade with developed capitalist countries in 1973 is based on a breakdown which appears to omit 603,000,000 lei of exports to and 321,000,000 lei of imports from these countries.

Sources: 1960 and 1966: Ministerul Comertului Exterior, Dezvoltarea comerțului exterior al R. S. Romania 1960-66 (Bucharest: 1967), pp. 45-55; 1971 and 1973: official statistics.

The most dramatic and politically significant change has been the rise in the share of "developed capitalist countries" (market developed countries or MDC's) in Romania's imports of machinery. In 1960 this share amounted to 25.7 percent, already up from 9.5 percent in 1958; in the period 1966 to 1973 it averaged 47.3 percent. If we con-

sider that machinery prices on the CMEA market were about 35 percent higher than in the world market in the early 1960's and, judging by price trends in CMEA and world prices since that time, retained that edge throughout the period under consideration, the share of MDC's in total machinery imports valued at comparable prices for East and West came to nearly a third in 1960 and averaged around a half in the period 1966-1973. This share fluctuated a good deal in the 1960's and 1970's, due in part, for reasons explored in a forthcoming paper,<sup>22</sup> to changes in the availability of hard goods (mainly raw materials and foodstuffs) for exports. For the time being suffice it to note that the deficit with CMEA in trade in machinery at current *devisă* prices was not much greater in 1973 than it had been in the early 1960's (about 500 million lei). By contrast, the deficit in machinery trade with the MDC's rose from 322 million lei in 1960 (roughly \$50 million at the old official rate of 6 lei to the dollar) to 3.4 billion lei in 1975 (\$684 million at the new rate of 4.97 lei to the dollar). Credits extended by the MDC's to Romania, which are reflected in the large and increasing deficits in total trade with this area, greatly alleviated the burden that the country would have had to bear if they had been compelled to run surpluses in other groups to pay for all this equipment. (On average, from 1971 to 1973, the deficit in trade with the MDC's came to approximately half of Romania's deficit in the machinery group.) The large surpluses in machinery trade with other socialist countries (OSC's) and with the less developed countries (LDC's), amounting to 714 million lei in 1973,<sup>23</sup> offset less than a fourth of the deficit in this division with the MDC's. It is doubtful, in any case, whether any significant fraction of these surpluses could have been used to offset deficits in hard currencies with the MDC's.

We noted earlier that the surplus in raw materials and semi-fabricates of the early 1960's had turned into a sizable deficit in the 1970's. The turnaround occurred with both CMEA and the MDC's. but the shift was much more pronounced in the latter than in the former.<sup>24</sup> With CMEA there was a surplus of 217 million lei in 1960 and a deficit of about 300 million lei in both 1971 and 1973; with the MDC's, there was a tiny surplus of 53 million lei in 1960 and a very large deficit amounting to almost 1 billion lei in 1973 and possibly even somewhat more in 1974 and 1975. Surpluses in food-stuffs and industrial consumer goods played a crucial role in bridging these gaps. With CMEA, the surplus in foodstuffs rose only moderately—from 392 million lei in 1960 to 750 million lei in 1973. With the MDC's, however, it leaped from 282 million lei in 1960 to slightly in excess of 1.8 billion lei in 1973 (\$300 million at the old exchange rate of six lei to the dollar). The Romanian planners pushed exports of industrial consumer goods toward both East and West as vigorously as possible, holding to minimal levels their imports in this category from both

<sup>22</sup> J. M. Montias, "Romania's Foreign Trade Between East and West," sections IV and V. East-European Integration and East-West Trade," edited by Paul Marer and Michael Monhas. Based on the Conference on Integration in Eastern Europe and East-West Trade, held at Bloomington, Ind., Oct. 28-31, 1976. Forthcoming, 1978, Bloomington, Indiana.

<sup>23</sup> Machinery trade with the OSC's and LDC's combined was obtained as a residual from the data in table 1.

<sup>24</sup> The data on Romanian trade by nine commodity groups divided according to trading area (CMEA, Other Socialist, MDC's, and LDC's) on which the following analysis is based are presented in the Appendix, table A1.

areas. The surplus in trade in these goods, which had been negligible in 1960, rose to nearly 1.5 billion lei vis-a-vis CMEA and to 1.2 billion lei vis-a-vis the MDC's. Success in penetrating West European markets with consumer goods contrasts with the Romanian's mediocre performance—characteristic however of all the less developed socialist states—in promoting machinery exports to the developed West, the value of which amounted to hardly more than 10 percent of machinery imports from this group of countries in 1973. (This percentage was slightly higher than that achieved by the USSR and slightly lower than Poland's.)

The pattern of trade with the OSC's and LDC's is similar in one important respect: Romania ran large surpluses throughout the 1960's and early 1970's in the machinery group in trade with both areas. But the methods of balancing this trade differed. The "other socialist countries" (chiefly accounted for by China and Yugoslavia) paid for Romanian machinery for the most part with foodstuffs and consumer goods. In some years the LDC's balanced their accounts with Romania with raw-materials surpluses; but their deficit in total trade—generated by Romanian medium-to long-term credits—was so large in most years (amounting typically to a fourth of imports in the early 1970's) that, as an aggregate, they could afford to import a greater value of goods than they exported in any division. (Because exports of manufactures to LDC's must be lubricated with credits and because repayment is generally tied to bilateral accounts, the possibilities open to Romania of solving her trade and payments problems via exchanges with LDC's would seem rather limited.)<sup>25</sup> By contrast, credits to the OSC's, judging by the trade surpluses with these countries, only exceptionally rose above 10 percent of exports to these countries, at least in the 1970's. Trade with the Chinese Peoples' Republic, for one, has been more or less balanced for a number of years. Romania, if we may judge from these figures, seems to be more interested in cultivating the LDC's than her partners in the great socialist adventure. The motives for this preferential treatment of LDC's with respect to credits would seem to lie at least as much in the political as in the economic realm.

The above analysis of the broad features of Romanian trade, divided into four major commodity groups and four areas, needs to be disaggregated further in at least two respects. (1) Divisions II and III (raw materials, semifabricates, and foodstuffs) should be subdivided into four groups differing in their degree of processing or manufacture, with consequences for the direction of trade. (2) The Soviet Union should be separated from the rest of CMEA by reason of the special place it holds in Romania's trade.

In Division II (raw materials and semifabricates), the chemicals group (CTN 3) is of special interest. Romania in 1960 exported 72 million lei and imported 214 million lei of these goods. By 1973, exports had risen to nearly 1.4 billion lei and imports to 1.7 billion lei. In that same year, exports of chemicals to MDC's (negligible in 1960) were on a par with their exports to CMEA (about 500 million lei). This ex-

<sup>25</sup> For a more optimistic judgement on these possibilities, see Marvin R. Jackson's Comment on Montias, "Romania's Foreign Trade Between East and West," in "East European Integration and East-West Trade," edited by Paul Marer and Michael Montias. Based on the Conference on Integration in Eastern Europe and East-West Trade, held at Bloomington, Ind., Oct. 28-31, 1976. Forthcoming, 1978, Bloomington, Ind.

pansion in exports of more or less manufactured chemical products to market economies was made possible at least in part by imports of technologically sophisticated equipment for the chemical industry from the West. On the other hand, imports from the MDC's were 2.8 times as large as from CMEA. The behavior of the chemicals group in Romanian foreign trade resembles that of the machinery group in that in both cases the Romanians have turned away from CMEA toward the West for the bulk of their supplies, but the two groups differ in that the Romanians have been far more successful in their efforts to boost exports of chemicals to the West than they have been in the case of machinery products.

Also in Division II, groups 2 and 5 may be distinguished. Raw materials and semifabricates for heavy industry are covered chiefly in group 2 and raw materials for light industry (for textiles and footwear) in group 5. Because heavy industry grew more rapidly than light industry, the deficit in group 2 rose faster, particularly in the 1960's, than the deficit in group 5. There was a small surplus in group 2 at the beginning of the 1960's, which turned into a deficit in 1962, whereas in group 5 the deficit first appeared in 1970 and became significant only from 1972 on. Interestingly enough, in the crisis year 1975, the deficit in group 2 continued to increase (at least at current prices), while the deficit in group 5 was curtailed by nearly one billion lei. It is not known whether this curtailment was achieved by running down available stocks of cotton, wool, leather, and of other raw materials used in light industry or by operating textile and other consumer goods industries below capacity.

Exports to CMEA in groups 2 and 5 were remarkably stable from 1960 to 1971, as if they had been set according to quota. Imports in group 2 from this area rose by 4.5 percent per year in the period and in group 5 by 1.3 percent per year. Exports to the MDC's in groups 2 and 5 grew rapidly from 1960 to 1971 (by 11.1 and 8.4 percent respectively), but imports rose even faster (by 16.8 and 9.7 percent respectively). The bulk of exports to the developed West in group 2 consisted of oil products, over 70 percent of which (reckoned by tonnage) was directed to the West in the early 1970's.<sup>26</sup>

In Division III, group 7 represents raw materials for the food industry (cereals, fresh vegetables and fruits) and group 8 covers processed foodstuffs including meat. The MDC's accounted for the bulk of exports in group 7. Out of 2.5 billion lei of exports in group 8 in 1973, CMEA took 828 million and the MDC's approximately 1.5 billion. The foodstuffs accruing to CMEA include a large share of canned products and processed foodstuffs; the West got most of the meat, butter, and eggs.<sup>27</sup> Groups 7 and 8 illustrate the general rule according to which raw products are more likely to be sold to the West and processed products to the East. By and large, the more highly manufactured a product happens to be, the harder it is to sell to the West.

Estimates of trade with the Soviet Union and the rest of CMEA broken down by nine commodity groups (CTN) are presented in table 2. From table 2 we may infer the following points. (1) Trade in

<sup>26</sup> Computed from the country data in Ministerul Comerului Exterior, "Comertul exterior al R. S. R., 1973" (Bucharest: n.d.), pp. 76-77.

<sup>27</sup> *Ibid.*, pp. 102-03.

TABLE 2.—ROMANIA'S TRADE WITH THE SOVIET UNION AND WITH OTHER CMEA MEMBERS IN 1960, 1965, 1972, AND 1973

[In millions of *devisa* lei]

	Exports				Imports				
	1960	1965	1972	1973	1960	1965	1972	1973	
<b>Trade with Soviet Union:</b>									
Group: <sup>1</sup>									
1. Machinery and equipment.....	158	478	898	1,087	429	949	1,437	1,475	
2. Industrial raw materials and semi-fabricates.....	872	1,023	916	626	814	1,281	1,429	1,517	
3. Chemicals.....	29			278	71				59
4. Building materials.....	64			82	9				25
5. Raw materials of agricultural origin other than foodstuffs.....	237	NA	255	233	148	128	200	245	
6. Live animals.....					7				
7. Raw materials for the food industry.....	78	359	478	92	53	11	47	7	
8. Processed foodstuffs.....	93			336	6				31
9. Manufactured consumer goods.....	159	NA	1,321	1,387	60	67	90	90	
Total <sup>2</sup> .....	1,689	2,631	3,869	4,120	1,596	2,437	3,203	3,449	
<b>Trade with other CMEA members:</b>									
Group: <sup>1</sup>									
1. Machinery and equipment.....	307	554	1,333	2,118	495	619	2,055	2,258	
2. Industrial raw materials and semi-fabricates.....	287	537	NA	566	270	403	NA	629	
3. Chemicals.....	40			NA	230		63		NA
4. Building materials.....	23			NA	307		18		NA
5. Raw materials of agricultural origin other than foodstuffs.....	107	NA	NA	147	49	46	NA	38	
6. Live animals.....					1		NA		
7. Raw materials for the food industry.....	99	271	NA	77	12	48	NA	79	
8. Processed foodstuffs.....	239			NA	492		39		NA
9. Manufactured consumer goods.....	51	NA	NA	398	97	165	NA	257	
Total <sup>2</sup> .....	1,154	1,581	3,100	4,337	1,045	1,282	3,363	3,634	

<sup>1</sup> Group 1 is identical with division I in table 1; groups 2 through 5 are included in division II, groups 6 to 8 in division III, and group 9 in division IV.

<sup>2</sup> Minor differences between sums for each year and their totals are due to rounding error.

Sources and methods: 1960 and 1973: Derived from percentages in "Ekonomicky casopis No. 9 (1975)": 790. These percentages were apparently based on Soviet statistics which omitted armaments both from group 1 and from the total. The difference between the Romanian statistics of imports from and exports to the Soviet Union in 1960 and 1973 was added to group 1 in the corresponding years; 1965 and 1972: "Rumanian Press Survey No. 961", p. 10. Trade in consumer goods was estimated from "Comertul exterior al R.S.R. 1973," pp. 108-116. Trade with CMEA other than the Soviet Union was derived by subtracting trade with the Soviet Union from the statistics of trade with CMEA in table A1 of the appendix. For 1972, a year for which no statistics of trade with CMEA broken down by commodity groups were available, imports and exports of machinery and equipment were taken from N. Suta, "Relatiile economice dintre tarile membre ale CAER, Bucharest: 1975," pp. 80 and 81.

manufactures (machinery and industrial consumer goods) with CMEA members other than the Soviet Union showed only a very small surplus in favor of Romania in 1973. (2) In that year, trade in machinery with the Soviet Union other than armaments was just about balanced (around 1.1 billion lei).<sup>28</sup> (3) The great surplus in manufactures ("soft goods") in Romanian trade with CMEA originated almost entirely in the surplus of manufactured consumer goods exported to the Soviet Union (1.3 billion lei) in 1973. Exports of these consumer goods to the Soviet Union rose 8.7-fold from 1960 to 1973, imports by only 50 percent, remaining negligible. (4) Trade with the USSR in raw materials and semifabricates (group 2) turned from a slight surplus in favor of Romania in 1960 to a deficit of nearly 900 million lei in 1973. The onset of this deficit may be traced to declining oil exports and rising imports of metallic ores, pig iron, and ferroalloys. (5) The surplus in Division II (groups 2 to 5) in trade with CMEA countries other than the Soviet Union came to 341 million lei in 1973,

<sup>28</sup> For estimates of trade in armaments, see sources and methods to table 2.

far short of the deficit with the Soviet Union in these groups (627 million lei). (6) Romania ran a surplus in foodstuffs (groups 7 and 8) with both the Soviet Union and the other members of CMEA in all four years. In trade with the Soviet Union in 1973, this surplus was insufficient to offset the import surplus in groups 2 to 5, leaving a continued deficit of 237 million lei in "hard goods" (Divisions II and III). The surplus earned from exports of foodstuffs to the other countries of CMEA, however, was so large that it more than offset the deficit in hard goods with the Soviet Union, leaving a positive balance in hard goods with CMEA as a whole equal to nearly 400 million lei. This positive balance, however, was appreciably smaller than in 1960 or 1965.

The year 1973 was somewhat exceptional in that the overall balance of merchandise trade with both the Soviet Union and the other CMEA nations showed very large surpluses (671 and 709 million lei respectively). In 1972, imports from CMEA as a whole exceeded exports by less than 400 million lei, and the surplus in hard goods with countries other than CMEA was some 200 million lei smaller than in 1973.<sup>29</sup> However, the main difference between the two years showed up in exports of Romanian machinery to CMEA members other than the USSR, which increased from 1.3 billion lei in 1972 to 2.1 billion lei in 1973, thus reducing the deficit in this group from 722 to 140 million lei. The available data allow us to infer that when Romania was faced with the necessity of repaying debts or to offset other negative items in her balance of payments with non-Soviet CMEA in 1973, she was able to do so mainly (i.e., to the extent of perhaps two-thirds) by increasing her exports of soft goods to these countries, thus economizing on the hard goods needed to earn convertible currencies in the West.

#### IV. A MICROANALYSIS OF TRADE IN MACHINERY

Recently released data and an important dissertation on trade in machinery and equipment by a Romanian economist afford valuable insight into the planners' decisions in this critical sector.

Romanian officials have very definite ideas about what constitutes a desirable structure of machinery imports and exports. In general, the more Romania's export structure gets to resemble that of an advanced industrial country, the better they like it, irrespective of specific differences in resource endowment, capital, or tradition. It is desirable, for instance, for machinery exports to represent a high percentage of total exports, as they do in advanced countries. The Romanians take pride in having increased the share of these imports from 4.2 percent in 1950 to 16.7 percent in 1960 and 25.3 percent in 1975. Responsible Romanian officials think this share should be raised considerably higher, in keeping with the relatively advanced state attained by the economy.

<sup>29</sup> To calculate this surplus as a residual, an estimate was needed of the balance in trade in consumer goods with CMEA in 1972. From percentages in the Economic and Commercial Guide to Romania 1974, Chamber of Commerce of the Socialist Republic of Romania, Propaganda Department (Bucharest: 1974), trade in this group with all socialist countries may be derived. To arrive at trade with CMEA alone it was assumed that the ratio of trade with CMEA to trade with socialist countries in group 9 was the same in 1972 and 1973. Only a small error can arise from this assumption.

The planner's policy with respect to machinery imports is not as clearcut. On the one hand, they would like to substitute domestic production for imports. On the other, they realize that advanced countries import a large proportion of their machinery needs. In point of fact, machinery imports have fluctuated without a clear trend from 35 to 40 percent of total imports, depending on the intensity of the domestic investment effort. The planners do, however, consider it to be a good thing for a country's imports of machinery to contain a high share of R & D-intensive equipment, including calculators, computers, optical apparatus, aircraft and aircraft motors, and telecommunications equipment. The total share of these items in the machinery imports of industrialized West European countries typically amounts to 21 to 30 percent and rises to 40 percent or more in Japan.<sup>30</sup> The writer of the dissertation referred to above found some comfort in the fact that the share of R & D-intensive machinery products rose in Romania from 1960 to 1971 (from 3.5 to 6.8 percent), while it declined in the Soviet Union (34.5 to 19 percent), Bulgaria (13 to 9.5 percent), and Czechoslovakia (7 to 4.3 percent), and remained constant in Poland (at 11 percent). Incidentally, the reasons given for the fall in these percentages elsewhere in CMEA were, first, the creation of domestic capacities that produced substitutes for these imports and, second, the lack of machinery available for reciprocal delivery to the capitalist countries and the consequent shortage of foreign currency to pay for them. The share in question despite the increase of the 1960's was still at a very low level in Romania at the end of the period, especially if we consider that this country, unlike Czechoslovakia, is hardly capable as yet of producing adequate substitutes for most of these imports.

Romanian exports of R & D-intensive equipment were deplorably low—indeed negligible—both in 1960 and 1971. These items represented an appreciable share of exports of all machinery and equipment only in Hungary and the GDR; but even Bulgaria had made far greater progress in this direction than Romania.<sup>31</sup> The recent Romanian co-production arrangement with the U.S. Corporation, Control Data, Inc., whereby Romania has committed itself to produce a variety of peripheral equipment for computers, may make a decisive difference in this regard.

The most revealing data on the desired orientation of the structure of machinery exports are contained in the following table (table 3) showing the actual composition of these exports in 1970, the volume and composition planned for 1975 and 1980, and the value in dollars per ton of each type of equipment.

<sup>30</sup> Iulian Dănescu, "Optimizarea exportului de mașini și utilajë al României în perspectiva anilor 1975-1980" (Doctoral Thesis, Bucharest, 1973), p. 40.

<sup>31</sup> *Ibid.*, p. 33.

TABLE 3.—ACTUAL AND PLANNED MACHINERY EXPORTS BY CATEGORIES IN 1970, 1975, AND 1980

	Planned exports (millions of <i>devisa</i> lei)		Percentage shares of total exports			Value in dollars per ton (early 1970's)
	1975	1980	1970 actual	1975 planned	1980 planned	
Electrical equipment.....	88	204	1.69	1.52	1.95	} 2, 800
Electric motors.....	135	315	2.83	2.30	3.01	
Low-tension electrical apparatus.....	45	105	1.04	.78	1.00	
Distributive electrical equipment.....	133	310	2.33	2.29	2.96	} 5, 000
Tractors and parts.....	410	675	11.73	7.11	6.44	
Agricultural machinery.....	124	197	2.92	2.15	1.88	
Metal-working machinery.....	392	811	2.74	6.70	7.174	2, 700
Metallurgical equipment.....	53	91	.51	.52	.86	1, 460
Construction equipment.....	70	110	.41	1.21	1.04	1, 200
Chemical equipment.....	131	252	2.78	2.27	2.40	1, 800
Equipment for other specialized industries.....	114	219	3.27	1.90	2.09	2, 000
Roller bearings.....	236	464	3.16	4.09	4.43	2, 250
Lifting and transportation equipment.....	25	45	.19	.23	.42	1, 600
Petroleum equipment.....	407	678	10.68	7.04	6.47	1, 330
Electric calculators and other electrotechnical apparatus.....	50	153	-----	.86	1.46	30, 000
Optical and scientific-research apparatus.....	8	22	.16	.14	.21	25, 000
Aircraft and parts.....	11	31	.19	.19	.29	56, 000
Telecommunications equipment.....	20	49	.02	.33	.47	10, 500
Electromechanical equipment.....	8	19	.12	.13	.19	14, 550
Automobiles and parts.....	185	373	2.00	3.20	3.56	1, 700
Radios and televisions.....	76	202	.50	1.30	1.93	5, 800
Refrigerators and washing machines.....	53	90	.04	.96	.85	1, 380
Trucks.....	381	678	7.63	6.62	6.53	1, 300
Automobile spare parts.....	155	307	4.70	2.68	2.93	1, 730
Trailers.....	250	322	6.05	4.33	3.07	680
Buses.....	233	417	2.41	4.03	3.98	1, 350
Railroad cars.....	606	668	9.38	10.50	6.38	600
Locomotives (diesel and electric).....	168	341	4.19	2.91	3.25	2, 800
Ships (river and sea).....	520	763	9.67	9.04	7.35	950
Other machinery and equipment.....	652	1, 459	6.62	11.64	14.78	-----
Total.....	5, 750	10, 370	100.00	100.00	100.00	-----

Note: When the percentages for 1970 are applied to total machinery exports in that year (2,534.5 million *devisa* lei) the results are almost identically equal for those items for which data on detailed exports are shown in Ministerul Comerțului Exterior, "Comertul exterior al R.S.R. 1973" (Bucharest: 1973), pp. 31-34.

Source: Iulian Danescu, "Optimizarea exportului de masini si utilaje al Romaniei in perspectiva anilor 1975-1980" (Doctoral Thesis, Bucharest, 1973), p. 237.

The structure planned for 1980—a decade after the forecasts were made—clearly evinces the reorientation of machinery exports away from low to high dollars-per-ton items. The share in total machinery exports of railroad cars, for instance, which brought only \$600 per ton on world markets at the beginning of the 1970's, was slated to go down from 9.38 percent in 1970 to 6.38 percent in 1980. Ships, tractors, agricultural machinery, petroleum equipment, and trailers were other low-value items that stood to diminish in relative importance. It was planned to increase the shares of most high-price items, including electrical equipment (\$2,800 per ton), metal-working machinery (\$2,700), electric calculators (\$30,000), optical equipment (\$25,000), telecommunications equipment, and radios and televisions (\$5,800). There were a few partial exceptions to this general principle. The shares of construction equipment, refrigerators and washing machines,

automobiles, and buses, all of which are medium-to-low-value items (\$1,200 to \$1,700 per ton) were slated to increase from 1970 to 1980. Most of these, incidentally, are sheet-metal products that play an important role in intra-CMEA trade. The plan for 1975 showed far more exceptions than the plan for 1980 to the general rule whereby high-price items were to gain and low-price items to lose in importance. The shares of most types of motors and industrial electric equipment, which are fairly high-valued, were to decline by 1975 and then to rise above 1970 levels by 1980. The share of low-valued railroad cars was to rise by 1975 before falling again to below-1970 levels by 1980. The imperatives of available capacities must, in the short- and medium-run, override desired changes in structure.

Surely though, that structure of exports is not necessarily the most efficient which concentrates chiefly on pieces of equipment that fetch a high price abroad. High-price goods may be particularly expensive to produce in Romania. A *prima facie* question to consider is the domestic cost in lei per dollar (or per *devisă* lei) obtained in foreign trade. From the partial data given by Dănescu, no evident correlation can be discerned between this primitive indicator of efficiency and the price of the exported good per ton. Thus televisions, for which a high price per ton obtains, cost 39.7 lei per dollar obtained in 1972. Spare parts for automobiles, a relatively low-price item, cost 15.3 lei per dollar. The average for all machinery and equipment, incidentally, was 24.2 lei per dollar. Electric motors, electric locomotives, parallel lathes, and agricultural machinery were below this average (i.e., were relatively low-cost generators of foreign exchange), while high-tension transformers, tractors, trucks, railroad cars, cargoes, and diesel locomotives were above average (high-cost generators). Railroad cars, the dollar price of which per ton was the lowest listed in table 3, cost 25.6 lei per dollar, which was just above average—and below many categories of equipment commanding higher prices abroad.

The calculation of domestic costs per ton yields only a first approximation to efficiency. For one thing, as Granick points out, accounting costs in Romania are a very poor reflection of the resources required to produce a product.<sup>32</sup> Overhead costs, for instance, are distributed among products in proportion to their direct labor costs, a practice that must lead to the understatement of the costs of capital-intensive products. More generally, the costs of capital-intensive items are understated in the calculations shown by Dănescu because there were no charges made at that time for the use of capital beyond depreciation.<sup>33</sup> Also, at the very least, the planners ought to have considered *net* domestic costs per dollar earned—that is, those domestic costs and dollar returns obtained after subtracting the costs (in domestic lei and dollars respectively) of all imported or exportable goods entering into the manufacture of the item under consideration. These material costs, according to Dănescu, amounted to 20–30 percent for motors and tractors.<sup>34</sup> Yet such calculations do not seem to have been carried out, except possibly on an experimental basis when the plans for 1975 and 1980 were being prepared.

My impression is that these more sophisticated calculations would tend to confirm the correctness of the planners' decision to scale down

<sup>32</sup> Granick, "Enterprise Guidance in Eastern Europe," p. 50.

<sup>33</sup> *Ibid.*

<sup>34</sup> Dănescu, "optimizarea exportului," pp. 111-12.

the share of exports of metal-intensive items such as railroad cars, tractors, and trailers, and to emphasize high-value-added items like electrotechnical equipment—especially if production methods can be based on imported high technology—but this is only a guess.

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#### APPENDIX. ROMANIA'S FOREIGN TRADE BY AREAS (NINE-GROUP CTN CLASSIFICATION)

Table A1: Total Romanian Exports to World, 1960-1975 (millions of *devisă* lei)

Table A2: Romanian Exports to CMEA Countries, 1969-1974 (millions of *devisă* lei)

Table A3: Romanian Exports to Other Socialist Countries, 1960-1966 and 1971 (millions of *devisă* lei)

Table A4: Romanian Exports to Market Developed Countries, 1960-1975 (millions of *devisă* lei)

Table A5: Romanian Exports to Less Developed Countries, 1960-1967, 1970, and 1971 (millions of *devisă* lei)

Table A6: Total Romanian Imports from World, 1960-1975 (millions of *devisă* lei)

Table A7: Romanian Imports from CMEA Countries, 1960-1974 (millions of *devisă* lei)

Table A8: Romanian Imports from Other Socialist Countries, 1960-1967, 1970, and 1971 (millions of *devisă* lei)

Table A9: Romanian Imports from Market Developed Countries, 1960-1975 (millions of *devisă* lei)

Table A10: Romanian Imports from Less Developed Countries, 1960-1967, 1970, and 1971 (millions of *devisă* lei)

Sources: For 1960 to 1966, all areas, Ministerul Comerțului Exterior, "Dezvoltarea comerțului exterior al R. S. României 1960-1966" (Bucharest: 1967), pp. 45-55. For other years, official statistics consulted and data communicated to the author by Jan Vaňous.

TABLE A1.—TOTAL ROMANIAN EXPORTS TO WORLD, 1960-75

[In millions of *devisa* lei]

Year	Commodity group									Yearly total
	1	2	3	4	5	6	7	8	9	
1960	716.2	1,592.4	93.9	108.2	648.5	0.3	385.8	508.2	248.7	4,302.2
1961	762.5	1,646.5	132.6	115.2	723.8	.9	522.2	551.5	299.5	4,754.7
1962	884.3	1,615.8	153.5	121.8	731.4	1.7	429.1	646.6	323.5	4,907.7
1963	904.1	1,700.8	221.9	140.0	816.8	1.6	640.7	631.1	433.2	5,490.2
1964	1,094.4	1,671.1	341.2	164.8	885.5	2.0	562.6	764.4	514.4	6,000.4
1965	1,223.4	1,667.4	425.3	224.5	943.7	1.3	485.2	918.9	728.5	6,609.2
1966	1,234.7	1,732.1	410.7	226.2	1,016.1	1.6	683.6	1,000.5	811.4	7,116.9
1967	1,588.8	1,715.5	502.9	226.5	1,075.8	2.0	1,066.5	1,264.2	929.9	8,372.1
1968	1,880.0	1,869.7	542.3	230.7	1,044.5	2.9	726.8	1,243.3	1,271.2	8,811.7
1969	2,121.9	2,019.9	693.1	260.4	1,012.6	3.1	753.3	1,395.0	1,539.4	9,798.7
1970	2,510.7	2,536.7	778.4	285.4	1,188.0	4.2	444.1	1,345.1	2,012.3	11,104.9
1971	2,911.6	2,552.7	1,031.7	335.4	1,208.0	1.6	447.8	1,797.5	2,319.7	12,606.0
1972	3,575.5	2,368.6	1,181.8	418.0	1,234.0	1.4	1,081.6	1,793.8	2,718.9	14,373.0
1973	4,538.9	3,216.6	1,352.7	610.3	1,500.1	.3	1,339.7	2,517.3	3,500.3	18,575.9
1974	4,984.4	5,308.0	2,714.5	723.2	1,733.9	3.7	1,244.5	3,672.7	3,840.9	24,225.8
1975	6,722.4	5,911.9	2,857.0	772.0	1,665.1	4.9	1,512.9	2,821.8	4,278.9	26,546.9

TABLE A2.—ROMANIAN EXPORTS TO CMEA COUNTRIES, 1960-74

[In millions of *devisa* lei]

Year	Commodity group									Yearly total
	1	2	3	4	5	6	7	8	9	
1960	455.8	1,158.9	68.9	87.3	344.0	-----	177.2	331.6	209.7	2,833.4
1961	623.5	1,181.8	105.7	88.6	382.9	-----	166.1	328.4	251.3	3,128.3
1962	770.5	1,142.4	123.6	96.4	357.2	-----	127.9	352.4	268.4	3,238.8
1963	727.8	1,160.8	164.3	99.8	367.1	-----	317.1	377.4	347.0	3,561.3
1964	895.5	1,220.4	244.2	96.8	384.1	-----	150.1	483.3	419.2	3,893.6
1965	1,031.4	1,170.8	254.5	134.8	382.7	-----	112.4	517.9	607.4	4,211.9
1966	925.7	1,012.2	209.9	128.1	368.7	-----	217.8	474.8	648.1	3,985.3
1967	1,057.6	NA	NA	NA	NA	NA	NA	NA	NA	4,213.6
1968	1,202.4	NA	NA	NA	NA	NA	NA	NA	NA	4,589.3
1969	1,341.9	NA	NA	NA	NA	NA	NA	NA	1,083.7	5,063.8
1970	1,574.0	NA	NA	NA	NA	NA	NA	NA	1,401.0	5,581.7
1971	1,792.6	1,125.0	356.8	205.6	362.9	-----	96.8	695.6	1,413.0	6,048.3
1972	2,230.6	1,182.0	386.0	NA	NA	-----	NA	NA	NA	6,877.2
1973	3,205.2	1,192.4	507.4	389.0	380.6	-----	169.1	828.8	1,784.4	8,456.9
1974	NA	NA	NA	NA	NA	-----	NA	NA	NA	8,849.0

TABLE A3.—ROMANIAN EXPORTS TO OTHER SOCIALIST COUNTRIES, 1960-66 AND 1971

[In millions of devisa lei]

Year	Commodity group									Yearly total
	1	2	3	4	5	6	7	8	9	
1960	166.5	81.2	3.2	5.7	13.4	29.3	1.9	4.8		306.0
1961	104.0	56.2	8.6	4.2	7.3	4.6	20.7	3.3		209.0
1962	73.1	26.6	4.4	6.3	1.7	1.4	9.2	2.0		118.7
1963	123.9	81.4	17.7	6	2.4	5.6	37.9	6.0		275.5
1964	77.2	81.0	32.0	10.3	1.1	15.9	8.8	7.1		233.4
1965	119.6	105.2	40.7	13.8	9.6	12.6	5.1	16.8		323.4
1966	206.5	111.7	39.8	18.0	17.7	4.5	9.9	18.8		426.9
1971	526.7	273.9	169.7	39.9	41.0	1.1	13.3	43.3		1,108.9

TABLE A4.—ROMANIAN EXPORTS TO MARKET DEVELOPED COUNTRIES, 1960-75

[In millions of devisa lei]

Year	Commodity group									Yearly total
	1	2	3	4	5	6	7	8	9	
1960	3.0	312.6	13.3	9.4	242.6	0.3	171.2	144.7	18.9	916.0
1961	2.3	314.2	8.3	13.1	285.6	.8	345.4	166.2	26.3	1,162.2
1962	2.4	336.1	12.3	14.3	308.7	1.7	288.3	181.6	37.7	1,183.1
1963	4.1	384.3	18.3	22.0	371.3	1.6	300.9	178.0	53.0	1,333.5
1964	4.9	313.9	30.3	25.4	412.9	2.0	375.9	250.7	60.2	1,476.2
1965	6.3	318.5	59.4	35.7	435.8	1.3	335.5	381.6	69.0	1,643.1
1966	25.5	507.9	102.8	41.9	469.0	1.6	416.7	459.0	104.3	2,128.7
1967	42.6	508.1	127.7	29.3	468.2	2.7	638.5	683.7	159.6	2,641.3
1968	NA	NA	NA	NA	NA	NA	NA	NA	NA	2,642.7
1969	NA	NA	NA	NA	NA	NA	NA	NA	NA	2,958.5
1970	148.6	1,031.8	259.7	46.4	533.8	4.2	343.9	635.8	471.4	3,542.1
1971	230.1	999.3	320.5	69.3	593.0	1.1	276.7	1,064.1	715.7	4,296.9
1972	262.0	931.8	315.0	105.5	559.9	-1	778.6	932.2	969.4	4,914.9
1973	363.3	1,543.4	419.7	138.5	688.4	-2	489.2	1,498.6	1,459.7	7,204.7
1974	438.0	3,254.7	874.0	134.9	652.0	-2	788.1	2,394.1	1,522.4	10,191.1
1975	600.4	3,086.1	664.1	185.3	605.1		689.8	1,577.7	1,672.2	9,080.7

TABLE A5.—ROMANIAN EXPORTS TO LESS DEVELOPED COUNTRIES, 1960-67, 1970, AND 1971

[In millions of devisa lei]

Year	Commodity group									Yearly total
	1	2	3	4	5	6	7	8	9	
1960	90.9	39.7	8.5	5.8	48.5		9.1	30.0	15.3	246.8
1961	32.7	94.3	10.0	9.3	48.0		6.1	36.2	18.6	255.2
1962	38.3	110.7	13.2	10.8	63.8		11.5	103.4	15.4	367.1
1963	48.3	74.3	21.6	17.6	76.0		17.1	37.8	27.2	319.9
1964	116.8	55.8	34.7	32.3	87.4		20.7	21.6	27.9	397.2
1965	66.1	72.9	70.7	40.2	106.6		24.7	14.3	35.3	430.8
1966	77.0	100.3	58.2	38.2	160.7		44.6	56.8	40.2	576.0
1967	203.5	110.5	38.1	33.1	179.8		27.7	54.8	37.3	969.1
1970	387.5	178.9	108.8	8.4	225.4		NA	NA	NA	1,110.2
1971	362.2	154.5	184.7	20.6	211.1	0.5	73.2	24.5	147.7	1,151.9

TABLE A6.—TOTAL ROMANIAN IMPORTS FROM WORLD, 1950-75

[In millions of devisa lei]

Year	Commodity group									Yearly total
	1	2	3	4	5	6	7	8	9	
1960.....	1,262.7	1,377.1	289.1	40.9	520.3	11.6	50.1	100.2	111.5	3,011.8
1961.....	1,977.8	1,481.9	319.7	55.7	617.8	9.9	17.1	128.7	279.6	4,888.2
1962.....	2,450.0	1,757.4	333.1	58.6	571.6	4.7	20.2	152.9	298.2	5,646.7
1963.....	2,652.5	1,872.6	414.4	54.0	573.5	2.4	43.4	190.2	418.9	6,131.9
1964.....	2,749.2	2,303.5	417.6	69.1	666.6	2.6	239.8	149.7	410.7	7,008.8
1965.....	2,516.4	2,094.8	407.3	92.3	716.4	.8	45.6	155.4	433.7	6,462.7
1966.....	2,982.8	2,076.9	521.9	105.1	831.1	1.6	55.6	171.2	533.1	7,279.3
1967.....	4,528.4	2,307.2	600.6	119.2	828.3	6.8	60.3	188.3	637.4	9,276.5
1968.....	4,511.3	2,631.6	605.2	125.7	837.5	2.0	76.0	265.1	599.4	9,653.8
1969.....	4,624.2	2,964.3	702.4	208.9	954.8	11.7	88.6	297.2	590.8	10,442.9
1970.....	4,655.1	3,662.5	788.3	181.2	1,200.7	18.9	253.7	357.6	642.8	11,760.8
1971.....	5,315.1	3,813.7	679.9	155.3	1,101.3	5.5	450.8	460.6	633.9	12,616.1
1972.....	6,670.3	3,843.0	806.6	162.8	1,502.0	9.0	332.0	395.0	744.5	14,465.2
1973.....	7,337.7	4,826.9	1,119.7	183.2	2,113.3	42.3	576.9	400.5	817.2	17,417.7
1974.....	8,698.3	8,209.5	2,586.7	237.5	2,686.0	44.4	1,511.3	587.3	1,002.4	25,563.4
1975.....	9,213.7	10,153.2	1,721.1	296.4	2,223.8	23.8	1,320.5	595.4	1,000.6	26,548.5

TABLE A7.—ROMANIAN IMPORTS FROM CMEA COUNTRIES, 1960-74

[In millions of devisa lei]

Year	Commodity group									Yearly total
	1	2	3	4	5	6	7	8	9	
1960.....	924.4	1,084.2	133.1	26.8	197.6	7.5	64.2	45.2	157.3	2,640.3
1961.....	1,238.8	1,167.4	151.9	33.1	190.3	4.7	3.0	62.0	209.2	3,060.4
1962.....	1,534.4	1,448.7	133.5	32.8	185.9	3.2	3.0	60.5	228.4	3,630.4
1963.....	1,726.4	1,486.7	149.8	33.3	164.8	1.6	16.9	51.4	307.2	3,938.1
1964.....	1,933.9	1,721.9	126.0	37.4	184.8	0.1	299.9	59.9	277.5	4,551.4
1965.....	1,568.2	1,537.1	111.5	35.8	174.4	0.2	8.2	50.9	232.3	3,718.6
1966.....	1,595.4	1,481.6	174.0	41.0	171.3	0.9	8.1	66.9	307.9	3,847.1
1967.....	1,826.1	NA	NA	NA	NA	NA	NA	NA	NA	4,150.3
1968.....	2,040.6	NA	NA	NA	NA	NA	NA	NA	NA	4,445.8
1969.....	2,331.1	NA	NA	NA	NA	NA	NA	NA	290.2	4,836.3
1970.....	2,766.7	1,755.7	244.3	85.2	323.8	-----	22.7	153.4	329.5	5,631.0
1971.....	2,917.3	1,821.3	181.1	99.3	227.9	-----	105.2	157.8	333.1	5,843.0
1972.....	3,492.6	NA	NA	NA	NA	NA	NA	NA	NA	6,566.3
1973.....	3,732.6	2,146.1	240.8	85.0	283.3	-----	85.0	162.9	347.1	7,082.8
1974.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	8,401.1

TABLE A8.—ROMANIAN IMPORTS FROM OTHER SOCIALIST COUNTRIES, 1960-67, 1970, AND 1971

[In millions of devisa lei]

Year	Commodity group									Yearly total
	1	2	3	4	5	6	7	8	9	
1960.....	13.0	44.9	32.7	3.5	67.0	-----	1.9	18.1	20.2	201.3
1961.....	51.1	55.7	18.8	4.0	37.5	-----	1.3	23.4	36.7	228.5
1962.....	41.5	24.9	20.1	5.8	17.2	0.1	2.2	28.3	28.6	174.7
1963.....	22.6	59.0	21.9	3.9	13.2	.1	2.8	48.6	47.4	227.5
1964.....	16.8	68.2	24.8	10.9	14.8	-----	1.8	16.0	62.6	215.9
1965.....	28.0	58.0	27.8	18.3	5.2	-----	3.5	28.3	70.1	239.2
1966.....	34.1	81.1	26.1	19.1	15.6	-----	7.3	36.9	98.1	318.3
1967.....	33.7	NA	NA	NA	NA	NA	NA	NA	NA	373.6
1970.....	47.9	190.3	30.9	8.5	97.4	NA	NA	NA	NA	662.0
1971.....	69.2	316.4	16.0	12.3	102.4	-----	11.1	187.7	150.7	947.8

TABLE A9.—ROMANIAN IMPORTS FROM MARKET DEVELOPED COUNTRIES, 1960-75

[In millions of devisa lei]

Year	Commodity group									Yearly total
	1	2	3	4	5	6	7	8	9	
1960.....	325.3	243.5	100.8	10.1	171.0	4.0	5.5	24.8	22.9	907.9
1961.....	687.9	245.3	122.5	18.2	212.6	5.2	6.1	29.4	32.7	1,359.9
1962.....	874.1	247.4	145.2	18.2	191.0	1.4	5.2	45.8	41.0	1,569.3
1963.....	813.5	290.8	185.3	16.3	219.7	.7	7.5	61.0	60.1	1,654.9
1964.....	798.4	476.8	247.1	20.8	294.0	2.5	4.9	46.0	51.2	1,941.7
1965.....	920.0	453.6	229.4	38.2	352.6	.6	6.6	53.2	93.9	2,148.7
1966.....	1,351.8	488.5	279.8	44.9	437.4	.7	13.6	40.7	112.6	2,770.0
1967.....	2,662.2	698.2	344.7	34.9	397.1	6.8	13.1	30.5	170.2	4,363.6
1968.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	4,158.2
1969.....	2,222.6	NA	NA	NA	NA	NA	NA	NA	NA	4,382.5
1970.....	1,831.9	1,474.2	392.6	87.4	503.4	18.1	164.7	38.4	128.0	4,640.9
1971.....	2,292.4	1,345.6	414.1	46.0	475.2	4.3	203.5	82.7	122.6	4,990.2
1972.....	2,987.8	1,261.1	468.0	73.3	716.8	7.9	167.0	59.0	163.3	5,911.1
1973.....	3,348.5	1,685.9	675.8	78.5	1,286.5	40.1	76.9	65.6	217.0	7,796.5
1974.....	4,011.9	3,454.1	1,994.8	122.3	1,645.9	39.2	763.8	123.6	266.9	12,433.4
1975.....	4,047.6	9,735.9	1,148.0	159.5	975.9	17.5	787.3	150.4	175.3	11,197.4

TABLE A10.—ROMANIAN IMPORTS FROM LESS DEVELOPED COUNTRIES, 1960-67, 1970, AND 1971

[In millions of devisa lei]

Year	Commodity group									Yearly total
	1	2	3	4	5	6	7	8	9	
1960.....		4.5	22.5	0.5	84.7	.01	14.3	10.7	0.3	137.6
1961.....		13.5	26.5	.4	177.4		6.7	13.9	1.0	239.4
1962.....		36.4	28.3	1.8	177.5		9.8	18.3	.2	272.3
1963.....		36.1	49.4	.5	175.8		16.2	29.2	4.2	311.4
1964.....	0.1	36.6	19.7		173.0		23.2	27.8	19.4	299.8
1965.....	.2	46.1	38.6		184.2		27.3	23.0	37.4	356.8
1966.....	1.5	25.7	42.0	.1	206.8		26.6	26.7	14.5	343.9
1967.....	2.4	35.6	NA		228.2	NA	32.9	40.0	NA	389.0
1970.....	8.6	242.6	120.5	.1	276.1	NA	NA	NA	NA	777.7
1971.....	36.2	330.4	66.7		295.8	1.2	51.0	32.4	27.5	835.1

# INDUSTRIALIZATION, TRADE, AND MOBILIZATION IN ROMANIA'S DRIVE FOR ECONOMIC INDEPENDENCE\*

BY MARVIN R. JACKSON\*\*

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## I. INTRODUCTION

Romania shares the Balkan historical region with Albania, Bulgaria, Yugoslavia, and Greece. With a common location the Balkan people have shared a common fate of economic backwardness and foreign domination. Before the Second World War one could find only tiny islands of industrialization in what was otherwise Europe's greatest mass of extreme rural poverty. Following the War, the region continued to experience strong and sometimes overwhelming foreign influences, but in each country powerful forces were released to promote economic development. Since 1950 the region has experienced Europe's highest growth rates. Despite much progress the effects of history have not been easy to erase. The Balkan countries remain

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at the bottom of the list of European countries in terms of per capita output, per capita exports of manufactured goods, and other indicators of economic development. They face a common challenge of it, when, and how the economic gaps between themselves and Europe's mature industrial countries can be closed.

The processes and challenges of economic development for Romania and her neighbors may be usefully viewed in two phases. The first "extensive" phase finds investment mobilized through pressure on consumption and increased rates of labor participation, although these pressures may be reduced if foreign borrowing and aid are available. Imports of machinery and technology are paid for by exports of primary products from agriculture and mining. During this phase, industry at first absorbs the surplus population and increments to the labor force, but finally as these sources of increased industrial labor force are exhausted, the absolute labor force in agriculture falls. As industry and the urban population grow, more of the output of agriculture and mining is consumed and the export surplus tends to decrease.

If a country succeeds in initiating "extensive" growth, it will eventually face new challenges of "intensive" growth, a phase that begins when unused reserves of labor in other sectors are no longer available to provide rapidly expanding labor inputs in industry. Now capital: labor ratios will increase if high levels of investment continue. To prevent a reduction of capital productivity, greater emphasis must be placed on increasing labor skills and technological change in existing industry. Another aspect of "intensive" growth will be faced by countries (usually smaller ones) whose raw material base must be supplemented by imports and whose domestic demand for manufactures provides insufficient specialization and economies of large-scale production. A country in this circumstance will also be required to produce manufactured goods efficiently enough to compete in world markets. Its success determines both the cost of imports and the efficiency of domestic resource use.

The literature on centrally-planned economies has stressed both their relative success in generating extensive growth and the challenges to them in the intensive phase of growth. In the Balkans, four of the countries, not including Greece, have been able to initiate extensive growth through central planning and the political controls of a communist party. Yet, despite their common heritage of backwardness and a common beginning, they have followed diverse paths through more than thirty years of extensive growth. The divergence arises, in part, from politics, since three of the four, not including Bulgaria, have quarreled with Moscow. Of the three, Albania in any case, because it has the most backward economy and because of its tiny size, might have followed a different path from that of Romania or Yugoslavia, both of whom were favored by larger populations, more natural resources, and higher initial levels of development. Of the two largest Balkan countries, Yugoslavia has departed further from Moscow formulas, both internally and externally. Its different path, in contrast to Romania, has been greatly influenced by its independent communist revolution, ethnic diversity, and distance from the Soviet border. Romanian leaders, aside from other factors, have always had to face the reality of a border over 1300 kilometers shared with the Soviet Union and a location that provides the latter with access to the whole Balkan region.

### *A. The Origins of Romanian Policy*

When Romania is viewed in the context of postwar politics in Eastern Europe, it displays an interesting feature. Not counting the very first years of communist rule, Romanian people have shown an apparent willingness to tolerate or accept the leadership of the country, as evidenced by the absence of major civil disorder (found on occasion in Hungary, Poland, Czechoslovakia, and East Germany) or, as of recent years, fractional disputes and bloody purges within the Romanian Communist Party. In fact, national policy, as developed by the Party, has shown stability and continuity in both its direction and means of execution. Of course other factors may be involved but the evidence suggests that Romanians, while certainly not satisfied at all times by the party leadership, have found some identification between it and their own aspirations.

If one were to seek a single key to Romanian policy since the 1950's, in both domestic and international affairs, it is the pursuit of independence under constraints. In this respect, party leaders have roots at least to Romania of the last century. Indeed, it may be said that few other communist parties have made a greater effort to link present policies with the past of the country, especially threads of Romanian political economy in which the fundamental axiom was that a backward, unindustrialized country has no hope for independence. Therefore, the first principal of policy has been the pursuit of rapid industrialization. The special quality of postwar Romanian leaders is not only their success in the execution of industrialization, but in their further recognition that the process of industrialization breeds new threats to independence, which, if they are to be avoided or minimized, limit the rapidity and dictate the shape of industrialization.

A backward country must acquire capital and technology in the first stages of development. In fact, within the absorption limits of the domestic economy the more capital and technology that is imported, the more rapidly the initial constraints of backwardness can be widened. The danger to independence arises to the extent that countries supplying capital and technology impose conditions that may hinder further development and even turn the recipient into an economic or political appendage. The threat of a new dependence may be reduced in several ways: (a) Limiting the levels of imports, (b) distributing imports widely among supplier countries, and (c) distributing imports and other industrial resources among many domestic branches in order to acquire self-sufficiency. In later stages of development, a small country, having successfully initiated industrialization, may face similar threats imposed through dependency on raw material imports or manufactured goods exports. In general, the strategy to reduce threats to national independence calls for similar resources: do not push industrialization at the cost of undue dependence, and distribute imports and exports widely among goods and countries.

The threats to independence in the process of industrialization appear with a significant amount of uncertainty. Avoiding them usually imposes costs, which slows down industrialization, thus maintaining the dependencies of backwardness longer, and increasing the costs of importing, exporting, and, in general, any given rate of growth in terms of the domestic sacrifices required for it. Clearly maintenance

of independence has costs and requires a developing country that wishes to maintain it to decide, under conditions of uncertainty, a balance between independence and actions that could make industrialization easier, at least in the short run.

Romanian policy since the 1950's seems to have followed such a logic. Professor Montias has provided a detailed study of Romania's quarrel with CMEA and the reorientation of trade with the West through 1965.<sup>1</sup> What is less known about the earlier years is that Romania, unlike Bulgaria, received no economic aid from the Soviet Union, but instead paid rather large sums to it, while faced with unfavorable terms of intra-CMEA trade.<sup>2</sup> It may be added that, in contrast to Greece and Yugoslavia, Romania received neither Western aid nor substantial remittances from nationals working abroad. Whether through necessity or choice, Romania's early industrialization was largely self-reliant.

In the late 1960's and early 1970's Romania continued to reduce its trade dependence on the CMEA countries in general and the Soviet Union in particular.<sup>3</sup> But even though dependence was reduced, significant supplies of such vital imports as iron ore and coking coal still come from CMEA. Moreover, CMEA exports and imports increased significantly in 1974 and 1975.

Western borrowing and Western imports of capital equipment reached a peak in the late 1960's. After 1970, Romania's absolute debt to the West continued to increase, but the rate of increase was sharply reduced and, with it, the share of western sources of total capital imports. The change may be interpreted as indicating a weakening of Romania's credit based in turn on estimates of her ability to export for convertible currency. Without doubt, Romania exhibits a continuing strong interest in convertible currency exports, as witnessed by her acceptance in 1975 of U.S. terms for granting MFN. Romania was the only CMEA member to do so. However, another interpretation may be given to Romania's behavior. Expanded U.S. markets allow Romania to diversify trade with the West. Of greater significance is the opinion that Romania could borrow significantly more from the West if she desired to do so strongly enough to meet western bank requirements for greater information about her current, credit, balance of payments, and trade plans. Possibly Romania believes that her independence would be compromised by providing more information or greater western trade shares.

Another aspect, perhaps the most interesting, of Romania's international economic policy is her strong interest in an option between East and West. Romanian trade with the less developed countries (LDC's) increased sharply in 1974 and 1975, and the plan for 1980 calls for nearly a third of total trade in this direction. From the perspective of Romania's independence, raw materials from the LDC's are clearly preferred to those from the Soviet Union, or other CMEA countries. Romania may also prefer to acquire raw materials directly

<sup>1</sup> John Michael Montias, "Economic Development in Communist Rumania." Cambridge, Mass., 1967.

<sup>2</sup> Paul Marer, "Soviet Economic Policy in Eastern Europe," in Joint Economic Committee, Congress of the United States, "Reorientation and Commercial Relations of The Economies of Eastern Europe." Washington, 1974, pp. 135-63.

<sup>3</sup> Changes in trade dependence are sometimes hidden in changes of total and regional trade. For an analysis that abstracts from these and other statistical problems, but shows Romania's significantly decreased dependence on CMEA, see: Paul Marer, "Intra-Comecon Trade: Patterns of Standardized Trade Dependence," prepared for NATO Colloquium on COMECON, NATO Headquarters, Brussels, Belgium, March 16-18, 1977, especially Chart 7.

from the LDC's rather through western intermediaries. In this case, Romania not only reduces export market dependence on the West and a certain need to pay in convertible currencies, but opens the possibility of supplying exports from her heavy industry to LDC's. It is consistent with Romania's past willingness to pay a price for independence to make these changes even if greater LDC trade may be immediately less profitable than West or CMEA trade and bear an additional cost of requiring Romanian credits to the LDC's.

These points will be explored further in the text of this paper. They are part of an overall policy that Romania calls "cooperation." This means that Romania will bargain for compensation; that is, ask to pay for equipment, for example, with Romanian industrial products. In a narrow sense, cooperation means that industrial products must exchange for industrial products if Romania is to avoid a dependent relation with the supplying country. In a broader sense, it means that Romania will cooperate with as many countries as possible in order to reduce dependence on any one or group of them.

### *B. Romanian Economic Organization*

As initially planned, this paper was to be concerned equally with structural changes and organizational changes in the Romanian economy. Although Romanians might disagree, it became evident that what has been most interesting about Romanian economic organization, especially by comparison to other CMEA members, is not change but a relative lack of change. To say no organizational changes have taken place would be incorrect. They have; but the dominant change in Romanian economic organization has not been in decision making as much as in what might be called "organizational mood," at some risk of implying something more subtle than what is obvious in Romania. The best term for describing the phenomenon is the word "mobilization," defined by Montias as "the form of pressure on individuals and their families, usually channeled through local party cadres, to make them contribute as much as they can to the pursuit of the regime's goals."<sup>4</sup>

The Romanian economy was mobilized once in the early years following communist acquisition of power. But the degree of mobilization seemed to taper off, reaching a low point between 1965 and 1970. Since 1970, the Romanian system has been remobilized, a process that has affected policy, performance, and organization.

Policy mobilization in Romania is best illustrated two ways. First, Romania's planned rates of overall economic growth and industrial growth for both five-year periods, 1971-75 and 1976-80, are significantly higher than the plan figures for other members of CMEA. Second, mobilization reflects in Romania's determination to achieve these high rates of growth while reducing net international debts and acquiring a substantial trade surplus. To accomplish this, Romania must severely limit imports and maintain high levels of self-sufficiency in all commodities and in technology. From a historical point of view the present leadership seems to have adopted an old Romanian slogan of the nationalist (but also capitalist) Liberal Party of the 1920's, "prin noi insine", best translated as "all by ourselves".

<sup>4</sup> John Michael Montias, "Types of Communist Economic Systems," in *Change in "Communist Systems"*, edited by Chalmers Johnson. Stanford, Calif., 1970, p. 117.

Performance mobilization shows in the overfulfillment of the ambitious plan for 1971-75 in spite of the floods in the summer of 1975. Similar actions have been repeated more recently when, following the earthquake tragedy of this March, persons have reportedly been placed on ten hour days to make up for the material losses. One notes that the only part of the 1976-80 plan to change so far as a result of the earthquake is a year's delay in the transition from a 48 hour work week to a shorter one.

Organizational mobilization is suggested by the relative size of Romania's Communist Party. It grew 25 percent from 1969 to 1974 to roughly 2,500,000 members, or one in every nine citizens, the highest ratio of party members to population of any CMEA member.

As might be expected Romania's economic organization is and has been highly centralized. The so-called "economic reform" movement came to Romania later and with less impact than elsewhere in CMEA.<sup>5</sup> It is suggestive of Romania's organizational approach that David Granick, on the basis of his interview studies shortly after Romanian reforms were initiated, concluded Romania was more centralized than either East Germany or the Soviet Union.<sup>6</sup>

Some slight decentralization (in a Romanian sense) lasted from 1969 through 1972 or 1973, but disappeared quickly after the National Party Conference in July 1972 called for the plan of 1971-75 to be fulfilled in four and one-half years. Since then, among the evidences of recentralization in the organization of industry and foreign trade are the following: (1) A standard internal organization was imposed on the industrial associations and enterprises, and the number of industrial associations was reduced from about 200 to 100 early in 1973;<sup>7</sup> (2) the number of industrial enterprises increased from 1965 to 1972, but were reduced back to the 1970 level by 1975, and the number of locally subordinated enterprises was sharply reduced in 1972;<sup>8</sup> (3) the number of organizations permitted to negotiate foreign trade contracts was also reduced in 1973, and again in 1975, when some foreign trade enterprises were returned to the ministry of foreign trade.<sup>9</sup> Still other dimensions of recentralization were reflected in the state plan for 1974 (prepared in 1973), which provided for: (1) an increase in centrally allocated products from 180 in 1973 to 720;<sup>10</sup> (2) the elimination of "decentralized" investments;<sup>11</sup> (3) the elimination of "departmental" imports (i.e., those not specifically approved by a central agency) and the designation of a single agency for each type of imported product.<sup>12</sup> As far as is known, with a few exceptions, price setting was never intentionally decentralized in

<sup>5</sup> A full discussion may be found in Iancu Spigler, "Economic Reform in Rumanian Industry". London, 1973.

<sup>6</sup> "Variations in Management of the Industrial Enterprise in Socialist Eastern Europe," in Joint Economic Committee, Congress of the United States, "Reorientation and Commercial Relations of the Economies of Eastern Europe," Washington, 1974, p. 234.

<sup>7</sup> Decrees numbered 169 of 22 March 1973, and 367 of 9 April 1973, published in Bulletin Official number 65 11 May 1973, and number 128, 17 August 1973.

<sup>8</sup> Anuarul statistic-1976, p. 79, hereafter referred to as *AS*.

<sup>9</sup> These and additional details on foreign trade are discussed in a paper by Josef C. Brada and Marvin R. Jackson, "Strategy and Structure In the Organization of Romanian Foreign Trade Activities, 1967-75," in this volume.

<sup>10</sup> Probleme economice, 1973:11, p. 23. Also in 1974, the state plan established energy and fuel consumption norms for 250 products. In 1975, such norms were extended to all products in the state plan ("Revista economica, 1975": 12, p. 9).

<sup>11</sup> As stated by Ceausescu, "Scinteia" 29 November 1973. In 1975, he went a step further saying, "Is the future, not a single investment, including local industry, can be made without central approval." "Scinteia," 24 July 1975.

<sup>12</sup> "Scinteia," 29 November 1973.

Romania.<sup>13</sup> However, in 1976 Ceausescu complained about the lack of price control and then explained that measures had been taken to ensure "In the future, not one kind of enterprise will have the right to establish prices without approval of the [central] price and financial agencies."<sup>14</sup>

As far as is known, Romanian agriculture was not touched by economic reforms. Here it is significant that Romania has never dismantled the machine-tractor stations as other CMEA countries did. Creation of various types of intercooperative associations in the 1970's appear to be a form of centralization. By far the most important change in Romanian agriculture has been the thorough overhaul of peasant incentives, which will be discussed further on in this paper.

Altogether, Romania's centralized organizational system seems to be a logical consequence of the concern for maintaining independence and the intense mobilization of the economy. It also appears to be a workable system since Romania continues to grow rapidly by relying on an "extensive" strategy.

The principal inquiry of this paper is to identify the economic structure and quantitative economic policies that permit continued rapid growth in Romania under a highly centralized organization. Throughout the inquiry the question is raised as to when and how the conditions for continued growth will change to the "intensive" phase as defined above. This question is reconsidered in the conclusion.

### *C. The Approach of the Inquiry*

The approach taken in this paper is that Romania's structure and policies ought to be examined based on data dimensions similar to those available to Romanian decision makers, that is, on the basis of Romanian data rather than Western recalculations. This is a difficult task as the reader will see. In spite of a declared intention to cooperate economically with all countries, and because of a perhaps exaggerated fear of compromising their independence, Romanian leaders have seen fit to publish less data and to permit less useful discussion about the Romanian economy and policies than any member of CMEA, possibly excluding Mongolia or Cuba. Consequently, the attempt to reconstruct data from terribly scattered sources and to indirectly estimate critical economic magnitudes has been a painful and not completely successful effort. Moreover, at some risk of tiring the general, nonprofessional reader, effort has been taken to explain most estimates and to provide out of the way data in the hope of attracting others to share the task of analyzing Romania's most interesting development experience.

## II. THE REMOBILIZATION PROCESS: 1971-80

Romania's economic growth and industrialization up to 1965 were given a "generally positive appraisal" in Professor Montias' detailed study.<sup>15</sup> Official Romanian data for the period are presented in Table 1. Western recalculations of overall growth and of industrial growth in Romania, although suggesting some exaggeration of the official data, have confirmed that Romania did achieve very rapid growth by world standards during this period.

<sup>13</sup> See Spigler, *op. cit.*, pp. 129-132.

<sup>14</sup> "Scinteia," 30 December 1976.

<sup>15</sup> John Michael Montias, "Economic Development in Communist Romania," Cambridge, Mass., 1967, p. vii.

TABLE 1.—PRINCIPAL ROMANIAN DEVELOPMENT INDICATORS

Indicator	Average annual percentage change			Percentage fulfillment of final plan targets <sup>1</sup>	
	1951-65	1966-70	1971-75	1966-70	1971-75
Population.....	1.0	1.2	1.0	-----	-----
Total employment.....	1.0	.4	.6	-----	-----
State employment.....	4.8	3.5	4.3	98.2	103.1
Fixed capital.....	5.5	8.6	9.6	NA	NA
Investments.....	14.4	11.2	11.5	100.6	102.0
National income produced.....	9.9	7.7	11.3	96.7	98.9
Gross industrial output.....	13.3	11.9	13.1	101.2	107.1
Producer goods (group A).....	15.1	13.0	13.7	106.1	106.1
Consumer goods (group B).....	11.0	9.7	11.1	97.8	103.7
Unit industrial costs.....	NA	-2.0	-1.7	100.0	80.0
Industrial labor productivity.....	8.5	7.2	6.5	99.6	96.5
Gross agricultural output.....	4.5	1.9	6.5	85.3	88.0
Socialist retail trade.....	11.0	10.1	8.5	94.9	103.3
Services <sup>2</sup> .....	NA	NA	11.0	NA	106.7
State social-cultural expenditures <sup>2</sup> .....	12.8	11.9	8.3	NA	NA
Total real income of persons.....	6.2	5.5	7.8	100.0	101.8
Real income/active peasant.....	4.3	1.2	10.8	86.8	132.3
Real wages/employee.....	5.5	3.7	3.7	96.0	100.0
Foreign trade <sup>2</sup> .....	11.0	11.8	18.4	114.8	123.8

<sup>1</sup> Where final plan targets (given in table 2) are expressed as a range, fulfillment is based on the midpoint.

<sup>2</sup> Current prices. Other items in constant prices.

Source: "Anuarul Statistic—1976," pp. 45-6, except for real income per active peasant given in "Scinteia," Feb. 5, 1976, p. 2 and table 2. Henceforth, Anuarul Statistic is referred to as AS.

### A. The 1965-70 Transition

The years from 1965 through 1970 turned into years of transition and uncertainty in Romanian politics, political economy, and economic performance. Gheorghiu-Dej, who had held firm control of this nation since 1952 and had pioneered a policy of "national communism," including the redirection of Romania's trade toward the West and its industrialization based on heavy industry independent of CMEA-dictated specialization, died in March 1965 during a period of intense policy confrontation with the Soviet Union. Under a new leader, Ceausescu, the policies of economic involvement with the West and of independent national development continued, even intensified, as did the conflict with the Soviet Union over "national communism." West Germany was recognized in 1967, a year when Romania also refused to denounce Israel after the Six-Day War. In 1968, Romania openly denounced and defied the Warsaw Pact intervention in Czechoslovakia. In 1969, Nixon was invited to visit Romania.

In terms of domestic political economy, public discussion of economic reforms began in 1967. In 1968 a major reorganization of regional administration was carried out. Basic economic priorities were not changed. As will be seen in the following tables, the share of national income for investment was increased, with a consequent, significant increase in the growth rate of fixed capital in both industry and agriculture.

Increased investments accompanied a pronounced increase in borrowing from the West to enlarge the flow of new industrial equipment and technology. Estimates of the growth of Romania's indebtedness to the West suggest an increase of \$1 billion from 1965 to 1970, roughly equivalent to 20 to 30 billion lei and 6 to 10 percent of total investments of 1966-70.<sup>16</sup>

<sup>16</sup> The problem of exchange rates and of converting Romanian currency values is discussed in Marvin R. Jackson, "Prices and Efficiency in Romanian Foreign Trade," in Josef C. Brada (ed.), "Quantitative and Analytical Studies In East-West Economic Relations," Bloomington, Inc., 1976, pp. 117-33.

Indebtedness estimates are from Edwin M. Snell, "Eastern Europe's Trade and Payments With The Industrialized West," in Joint Economic Committee, Congress of The United States, "Reorientation and Commercial Relations of the Economies of Eastern Europe," Washington, 1974, p. 718.

Overall real economic growth in 1966-70 measured 7.7 percent per year in terms of the socialist concept of national income (net material product), or a slightly lower 6 percent per year by a western recalculation of GNP. This was a substantial achievement by world standards, one that would have pleased most developing countries. Still, by comparison to the overall Romanian experience of 1951-65, all output and income indicators showed less growth while fixed capital inputs were being increased at much higher rates. At the same time, even though population was growing at slightly higher rates because virtually free abortion had been outlawed in 1967, both total employment (including those in cooperative and private activities) and employment in state enterprises and agencies grew more slowly. Reference to table 3 provides a clearer picture of the situation from 1966 to 1970. Here the percentages of growth of national income, industrial output, and agricultural output are compared to input growth and input productivity growth (see text for an explanation of calculations).

Romanian agriculture posed a major problem. With severe spring floods, net output in 1970 was lower than before collectivization, having fallen in 1967, 1968, and 1970. A larger gross output was available only because of more material inputs. But, overall, greater inputs of capital were not compensating for withdrawals of labor.<sup>17</sup>

Lower rates of increase of industrial labor in the index of inputs were also offset by higher rates of increase of fixed industrial capital.

Both gross and net industrial output growth rates were lower than in 1961-65. The relatively slower growth of gross output strongly suggests a lower growth of material inputs from non-industrial sectors, either agriculture or foreign trade. A limitation on agricultural output may have been the cause of a reduced growth rate of the food industry that counted for about twenty percent of gross industrial output. Indirect affects of agriculture's poor performance could have been felt through (a) restrictions on the urban food supply, which would slow the growth of urban labor and labor incentives; and (b) restrictions on exports of foodstuffs, which would slow the growth of imports of both industrial capital equipment and materials. In fact, possible problems with labor may be suggested in Table 1 in the slower growth of wages and incomes, and of state employment. Romania's trade balances illustrate the existence of the second restriction. An export surplus of food products grew by 492 million devisa lei from 1960 to 1965, nearly enough to cover a 541 million devisa lei increase in net imports of industrial raw materials (from a 1960 surplus of 371 million devisa lei to a 1965 deficit of 170 million devisa lei).<sup>18</sup> But, from 1965 to 1970, the export surplus of food products did not increase from a level of about 1,200 million devisa lei. Yet, the import deficit for industrial materials increased by 953 million devisa lei to a level of 1,122 million lei.<sup>19</sup>

Some general and tentative conclusions may be drawn from this survey of data. One has a definite sense that Romania was in transition from a phase of extensive growth to a phase of intensive growth,

<sup>17</sup> Actually, as will be discussed later, the quality of agricultural labor (measured by sex and age composition) deteriorated significantly so the withdrawal of labor was larger than shown in the table.

<sup>18</sup> The devisa leu is the external unit of account reflecting current foreign trade prices.

<sup>19</sup> Trade data from AS-76, pp. 384-385.

as defined in the introduction. The organizational system did not seem to manage the increase in capital investments well. In industry, with a slower intake of labor inputs and a much larger investment flow, productivity fell resulting in less output growth than in 1961-65. A more rapid growth of industrial labor appeared to be inhibited by the inability to compensate labor withdrawals from agriculture with larger investments in that sector. The poor response from agriculture made it difficult to provide greater urban labor incentives. Perhaps of most importance, Romania's transition from raw materials surpluses to large raw materials deficits in trade, plus the lack of growth of foodstuffs exports, now made it imperative for the country to export manufactured goods. To succeed in this effort, not only would industry have to produce goods of international quality, but the Romanian foreign trade system, which had heretofore handled the relatively easy task of selling raw materials and foodstuffs, would now have to solve a more difficult marketing of manufactured consumer and industrial goods.

### *B. Remobilization Plans, 1971-80*

Given the background of 1966-70, one might have expected intensified effort to improve organization in industry, foreign trade, and agriculture. Some important changes in organization have been made, especially in foreign trade and agriculture, but the main thrust of subsequent policy had a different spirit. Also, given the need to more effectively absorb investments, one might have taken seriously the modest proposals for growth and development for the next five years, 1971-75, presented at the Tenth Party Congress in 1969 (see Table 2). The floods of 1970 added their damage to the country's prospects. However, what was to come was a very ambitious remobilization of the economy.

TABLE 2.—INITIAL AND FINAL VERSIONS OF RECENT 5-YEAR PLANS

Indicator	Initial plan targets—Party Congresses (percentage increase)			Final plan targets (percentage increase)			Percentage increase of final plan targets over party congress directives <sup>1</sup>		
	9th—1966-70	10th—1971-75	11th—1976-80	1966-70	1971-75	1976-80	1960-70	1971-75	1976-80
Gross output of industry.....	65	50-57.0	54-61.0	73.0	69-76.0	62-70.0	5.8	12.5	5.4
Producer Goods (group A).....	70	NA	NA	70-77.0	74-84.0	-----	2.1	NA	NA
Consumer Goods (group B).....	60	NA	NA	60-65.0	57-69.0	-----	1.6	NA	NA
Gross output of agriculture (average 5 plan yrs).....	20	28-31.0	25-34.0	26-32.0	36-49.0	28-44.0	7.5	10.0	5.0
Transportation of goods.....	55-60	NA	NA	NA	94-111.0	30-34.1	NA	NA	NA
National income.....	40	45-50.0	25-34.0	50.0	69-76.0	61-68.5	7.1	16.9	4.6
Total real income of people <sup>2</sup> .....	30	-----	35-37.0	40.0	40-46.0	35-40.0	7.7	NA	1.1
Total investments.....	NA	NA	65-72.0	-----	-----	83.4	-----	-----	-----
From centralized funds.....	50	48-53.0	NA	66.0	65.0	-----	32.0	9.6	9.0
Number of state employees.....	20.9	7.8-9.8	16-19.0	20.9	19.6	16-19.2	-----	9.9	-----
Productivity per employee:									
Industry.....	40	37-40.0	38-42.0	40-45.0	42.0	50-53.8	1.8	2.5	8.5
Construction.....	30	27-31.0	50-56.0	30-35.0	35.0	50-56.9	1.8	4.7	NA
Transport.....	28	33-35.0	20-26.0	28-29.0	33.0	20-27.3	-----	-----	NA
Reduction of industry costs.....	10	6-7.0	6.5-7.0	10.0	11-12.0	8.5-9.5	-----	77.9	33.3
Retail sales.....	50-55	30-35.0	40-45.0	55-59.0	40-47.0	45-47.5	3.0	8.3	2.6
Services.....	NA	40-45.0	NA	NA	55-61.0	61-68.5	NA	10.9	NA
Real wages of employees.....	20-25	16-20.0	18-20.0	25.0	20.0	18-22.0	2.0	1.7	.8
Real incomes of peasants.....	20-25	15-20.0	20-25.0	20-25.0	22-30.0	20-29.0	-----	NA	1.6
Foreign trade.....	40	40-45.0	72-80.0	50-55.0	61-72.0	90-101.4	NA	16.8	11.2

<sup>1</sup> When targets are given as a range, computations are based on the midpoint.

<sup>2</sup> For 1965-70, growth of the "consumption fund."

Sources: (1) 1965-70 plan—both initial and final plans as reported in John Michael Montias, "Economic Development in Communist Rumania," The M.I.T. Press; Cambridge, Massachusetts, 1967, p. 80. (2) 1971-75 plan—final plan in "Scinteia," Oct. 21, 1971; initial and final plans in "Scinteia,"

Feb. 4, 1976. (3) 1976-80 plan—initial plan, "Directives of the 11th Congress of the Romanian Communist Party Concerning the 1976-80 5-yr Plan and the Guidelines for Romania's Economic and Social Development over the 1981-90 Period," Meridiane Publishing House: Bucharest, 1975, p. 14; final plan, Scinteia, July 3, 1976.

It cannot be known for sure whether basic political issues were being resolved at this time. In the economic realm, evidence suggests that subsequent changes in the 1971-75 plan were connected with an improved information system that was starting to provide Romanian leaders a better view of where the Romanian economy stood compared to the world and what would have to be done to improve Romania's level of development. In May 1971 an important party central committee meeting considered the rate of development of the economy through the end of the century. The final version of the 1971-75 plan, passed in October 1971 by the National Assembly, suggested a new sense of resolution and confidence on the part of the country's leaders. As seen in table 25 the plan provided higher growth rates and a greater relative increase over the party congress directives than took place in either 1966-70 or 1976-80. The question of Romania's development gap continued to be discussed, culminating in the National Party Conference in July 1972. At this time it was decided that the rate of investment in national income would have to be raised and maintained at levels of around 32 to 34 percent if Romania were to be able to join the ranks of the developed countries by about 1990. A target was set of 60,000 lei, or \$2,500 to \$3,000 per capita national income by 1990. It was also decided to push ahead with a continuing reduction of the role of agriculture, and emphasize the development of industry, stressing producer goods, as the means of attaining the higher economic stage.

At this time President Ceausescu signaled the beginning of an intense campaign to fulfill the ambitious targets of the original 1971-75 plan in four and one-half years. Such a step-up in the target dates for fulfillment was equivalent to increasing the annual average growth rates of national income and gross industrial output from 11 to 12 percent as planned to over 13 percent, and the target for gross agricultural output from 6.3 to 8.3 percent to 7.3 to 9.3 percent. The Romanian economy was now under pressure not only to outperform its recent past, but also to significantly surpass the rest of Eastern Europe and the Soviet Union. The Romanian targets for 1971-75, given the "four and a half" fulfillment campaign, were for agriculture slightly over twice, for national income about twice, and for industrial output slightly under twice the average annual rates of growth planned for the rest of CMEA in 1971-75.<sup>20</sup>

Directives for the sixth five-year plan, 1976-80, given at the Eleventh Party Congress in the autumn of 1974 followed those of the previous congresses in suggesting modest growth targets in light of the economy's rapid growth. Even though it was certain that higher targets would be subsequently announced, it was a surprise, and perhaps suggestive of the Party's determination, that higher targets were announced in July 1975 while parts of the country were still covered with waters of the floods from the first of the month. Discussions of the new plan continued and, in the meanwhile, the 1971-75 plan was concluded. Because of agriculture's poor performances of several years and the 1975 floods, the final targets of the 1971-75 plan for national income and agricultural output were not met. Obviously the campaign to fulfill the plan in four and a half years was not a complete success. Yet, gross industrial output grew at 13.1

<sup>20</sup> United Nations, Department of Economic and Social Affairs, "World Economic Survey 1975," New York, pp. 152-154.

percent per year, enough to fulfill the plan two months before the end of the year.

These shortcomings possibly have shown the limits to remobilization in Romania. The final 1976-80 plan, passed into law in July 1976 by the National Assembly, was a slightly less ambitious plan than 1971-75 in all indicators except labor productivity and investment growth. But even though less ambitious than before, Romania has set growth targets in 1976-80 as in 1971-75 for national income, industry, and agriculture that are much higher than in other CMEA countries.

### *C. Performance in 1971-77 and Growth Prospects*

Table 3 illustrates the principal features of the 1976-80 plan in contrast to earlier plans. The overall percentage growth of three principal output categories and of the labor and fixed capital inputs are shown. Sources of growth are calculated by combining labor and capital inputs on a fifty-fifty basis and then dividing the derived growth of total inputs into output growth in order to estimate total input productivity change.

TABLE 3.—CHANGES IN OUTPUTS, INPUTS, AND PRODUCTIVITY

	[Percentage change]					Plan
	1951-55	1956-60	1961-65	1966-70	1971-75	1976-80
<b>1. Total economy:</b>						
National income produced.....	92.0	39.6	54.1	45.0	71.0	68.6
Total fixed capital.....	25.0	28.8	38.5	51.1	58.0	66.2
Total employment.....	11.8	1.9	1.5	2.0	2.8	3.4
Total inputs <sup>1</sup> .....	18.4	15.4	20.0	26.6	30.4	34.8
Total input productivity <sup>2</sup> .....	62.2	20.9	28.4	14.6	31.1	25.1
<b>2. Industry:</b>						
(Gross industrial output).....	102.0	68.3	90.0	75.0	84.0	73.1
Net industrial output.....	118.0	70.6	90.9	82.0	86.0	87.1
Fixed capital.....	53.0	47.1	58.7	86.0	85.0	84.2
Employment.....	22.0	18.0	29.2	22.6	36.6	22.6
Total inputs <sup>1</sup> .....	37.5	32.6	44.0	54.3	60.8	53.4
Total input productivity <sup>2</sup> .....	58.5	28.7	32.4	18.0	15.7	22.0
<b>3. Agriculture:</b>						
(Gross agricultural output).....	62.0	5.6	12.9	10.0	37.0	39.0
Net agricultural output.....	70.0	-0.6	0.0	-3.0	30.0	30.0
Fixed capital.....	10.0	15.5	25.2	34.0	58.0	56.7
Employment.....	5.0	-4.8	-12.0	-11.4	-20.9	-25.8
Total inputs <sup>1</sup> .....	7.5	5.4	6.6	11.3	18.6	15.5
Total input productivity <sup>2</sup> .....	58.1	-6.6	-6.2	-12.8	9.7	12.6

<sup>1</sup> Capital and labor each weighted 50 percent.

<sup>2</sup> The index of net output divided by the index of total inputs.

Sources: AS-76, pp. 53, 56 and 66-67. Plan 1976-80 is based on sources in table 2; planned national income of 610,000,000,000 lei from "Scinteia," Feb. 5, 1976; and planned total capital of 2,000,000,000,000 lei from "Scinteia," July 2, 1976.

Mobilization, along with better weather, reversed the earlier tendency for growth rates to fall. In 1971-75, industrial and agricultural growth increased significantly, but the much more rapid growth of national income resulted from the first significant growth of net agricultural output since the early 1950's. The productivity of total inputs accounted for a greater share of national income than in either of the principal sectors of material output, showing the influence of labor transfers from agriculture to industry. The economy generated even larger increases in inputs than before, with industry, especially, growing "extensively" more than "intensively." Industrial productivity growth continued to slow down, a fact of considerable concern for Romanian planners.

The 1976-80 plan projects a virtual repeat of the 1971-75 experience. Agriculture will continue to be a source of labor for industry, although other sectors will acquire more labor than before. The critical assumptions of the plan are in the expected increases in total input productivity. In the Romanian conception, which sees output growing as a result of either increases in labor inputs or increases in the productivity of labor (output divided by labor), the Eleventh Party Congress Directives expected increased labor productivity to account for 70 percent of the growth of gross industrial output from 1976 to 1980, a figure subsequently raised to 75 to 80 percent.

As shown in Table 4, the annual plans of 1976 and 1977 implement the intent of the five-year plan. In 1976, shortfalls of real wages, retail trade, and services combine with a slight overfulfillment of real income to suggest a very large increase in social consumption. A serious shortcoming of actual investments caused the Party great concern, and, combined with the tragic earthquake of March 4, 1977, place the annual, and possibly the five-year, plan targets in question. Damages to state, cooperative, and personal property from the earthquake were officially reported to be 9 to 10 billion *lei*, or about \$500 million (converted at 20 *lei* per dollar). Losses of output, which are still unreported, may be added to this figure. A total of 763 industrial, construction, and transportation units were damaged, but, as of March 18, only 17 were reported as still without their whole capacity.<sup>21</sup> The extent to which international assistance will offset reported material losses is not known. If the losses are estimated in current 1977 prices, they will equal about 28 percent of total planned investments for the year, or about 11 percent of the planned national income for 1977.<sup>22</sup> Following the earthquake, the government stated that the plan to reduce the workweek (discussed below) will be delayed one year; otherwise, the announced development plans will be fulfilled.

TABLE 4.—ANNUAL PLANS AND FULFILLMENT, 1975-77  
[Percentage increases]

Indicator	1975 actual	1976		1977 planned
		Planned	Actual	
1. National income produced.....	9.6	10.5	10.5	11.3
2. Gross industrial output.....	12.4	10.2	11.5	10.5
3. Gross agricultural output.....	2.5	15-26.6	17.2	1.9-13.6
4. Transport of goods.....	21.9	5.8	5.2	3.0
5. Investments.....	16.6	19.4	8.2	16.7
6. Construction.....		21.6		20.4
7. Foreign trade.....	6.6	17.8	14.5	15.5
8. Retail trade.....	7.7	10.8	8.6	8.4
9. Services.....		13.8	6.9	12.5
10. Number of state employees.....	4.6	5.6	4.1	4.6
11. Industrial labor productivity.....	7.1	8.5	8.8	9.3
12. Real income:				
Total.....	6.6	NA	NA	NA
Per person.....	5.3	8-8.5	9.5	5.9-6.3
13. Money wages.....				6.3
14. Real wages.....	7.1	8-8.7	6.1	3.2-3.8
15. Real income/active peasant.....	NA	9-12.0		6.6-7.1
16. Money income/active peasant.....	NA	NA	11.6	NA

<sup>1</sup> Vegetable products "over 20 percent"; animal products 10 percent.

Sources: 1975—Actual, "Anuarul Statistic 1976." 1976—Planned, "Scinteia," Dec. 21, 1975. Actual, "Scinteia," Feb. 6, 1977—Planned, "Scinteia," Nov. 6, 1976.

<sup>21</sup> "Scinteia," 18 March 1977.

<sup>22</sup> Plan figures for 1977 were total investment, 180.45 billion lei, and national income produced, 445 billion lei, both in "current 1977 prices," as reported in "Scinteia," 6 November 1976. In "comparable 1963 prices," planned total investment would be about 174 billion lei and national income about 445 billion lei. These estimates are based on data in AS-76, p. 47, for 1975 and plan reports in Table 4. It is interesting that the national income estimate in "comparable 1963 prices" is the same as that for "current 1977 prices."

It is certain that Romania's economy will be subject to strain in the coming years. A bad year in agriculture would probably cause a serious shortfall compared to the 1976-80 plan. In any event, Party mobilization will have to overcome the more limited possibilities for material incentives. But it must be remembered that the Romanian economy recovered rapidly from the floods of 1970 and 1975. Pressure is not new and, with favorable crop years, the 1976-80 plan targets may be met.

Tables 5 and 6 summarize the experienced and planned growth and structural changes in the economy. The figures for 1980 and 1990 express the commitment to an industrial future. The planned shares of employment for industry and agriculture in 1980 are approximately those of Hungary in 1970, whereas those of 1990 resemble the 1970 figures for East Germany. The planned levels of per capita national income (converted at 20 lei to the dollar) of about \$1,360 in 1980 and \$3,000 in 1990 suggest in the latter year material standards equal to, or just slightly exceeding those of East Germany and Czechoslovakia in the early 1970's. By 1990 Romania's urban population is projected at 68 percent of total population, somewhat less urbanized than the East German and somewhat more urbanized than the Czechoslovakian populations in 1970.

TABLE 5.—PRINCIPAL STRUCTURAL ELEMENTS OF THE ECONOMY, 1950-90

(In percent)

Branch and year	Employment <sup>1</sup>	Fixed capital <sup>1 2</sup>	Investment <sup>1 2</sup>	National income produced	Social production
Industry: 1950.....	12.0	40.6	48.6	44.0	46.6
1975.....	29.4	56.0	52.2	61.8	65.9
1980 <sup>3</sup> .....	36.3	59.6	51.5	68.6	71.0
1990 <sup>3</sup> .....	43.0	NA	NA	NA	NA
Construction: 1950.....	2.2	1.4	6.5	6.0	7.4
1975.....	9.2	4.3	3.7	8.6	9.4
1980 <sup>3</sup> .....	10.7	4.4	3.3	7.7	8.5
1990 <sup>3</sup> .....	NA	NA	NA	NA	NA
Agriculture: 1950.....	84.1	38.7	10.3	27.8	25.7
1975.....	38.2	14.9	12.4	15.6	13.8
1980 <sup>3</sup> .....	27.1	14.0	11.7	11.6	10.9
1990 <sup>3</sup> .....	12.9	NA	NA	NA	NA
Transportation and communications:					
1950.....	2.2	17.7	17.3	4.3	4.2
1975.....	5.4	19.2	9.9	5.1	4.1
1980 <sup>3</sup> .....	6.1	16.5	11.7	4.5	3.7
1990 <sup>3</sup> .....	NA	NA	NA	NA	NA
Other sectors: 1950.....	9.5	-----	17.3	17.9	16.1
1975.....	17.8	-----	21.8	8.9	6.8
1980 <sup>3</sup> .....	19.8	-----	21.8	5.9	5.9

<sup>1</sup> End of year.<sup>2</sup> Fixed capital and investments in the productive sectors only.<sup>3</sup> Planned.

Sources: For 1950, 1975, and 1980—Vasile M. Popescu, "Directii ale modernizarii structurii economiei nationale," "Era socialista," LVI:12 (June 1976), p. 32. For 1990—Manea Manescu, op. cit., p. 6.

TABLE 6.—ABSOLUTE VALUES OF ROMANIAN PRODUCT

[In billions of constant lei]<sup>1</sup>

	1938	1950	1955	1960	1965	1970	1975	Planned	
								1980	1990
Gross social product:									
(a).....						523.4	863.7		
(b).....		83.0	155.0	219.0	344.0	523.0	864.0	1,350.0	
(c).....	84				344.0		901.0	1,400.0	3,000
National income produced:									
(a).....						212.1	361.9		
(b).....		35.0	68.0	95.0	146.0	121.0	362.0	610.0	
(c).....	36				146.0		384.0	600.0+	1,500
Gross industrial output:									
(a).....						319.5	586.9		
(b).....		27.5	55.7	93.6	178.4	312.8	576.6	988.0	
(c).....	18				170.0		582-591.0	900-950.0	1,950-2,250
Gross agricultural output:									
(a).....						68.6	93.8		
(b).....		32.4	52.6	55.3	62.5	68.6	93.4	121.2-138.5	
(c) <sup>2</sup> .....	44				58.0		94.0	117-126.0	141-169

<sup>1</sup> Data in row C specifically designated in "comparable 1963 prices."<sup>2</sup> 5-year averages.

Sources: (a) "Anuarul statistic 1976," p. 47; (b) "Scinteia," Feb. 5, 1976, p. 3; (c) Ma nea Manescu, "Avutia nationala a Romaniei Socialiste," Era socialista, LV:11 (June 1975), p. 9.

### III. SOURCES AND USES OF RESOURCES FOR INDUSTRIALIZATION

The presentation of plan and performance provided a useful overview of Romanian remobilization for industrialization after 1970, but it insufficiently identifies critical areas of resource availability and allocation. The task in this section is to evaluate the sources and uses of investments, equipment and industrial materials, and agricultural output. Throughout the section interconnections between the domestic and international economies will be explored.

Romania's industrialization drive has been focused in two areas: (a) An effort to acquire investment by maintaining limits on consumption while attempting to avoid adverse affects on the labor supply and incentives; and (b) an effort to acquire the equipment into which investment is transformed, and the raw materials and fuels to supply growing productive capacity. These largely domestic efforts, in both cases, have been influenced by Romania's international economic relations. The supply of investment has been influenced directly by capital flows and indirectly by the terms of trade. The terms of trade have determined the domestic sacrifice needed to service a foreign debt and to import needed equipment, raw materials, and fuels. The commitment of investment to industry has changed the relative supplies of exportables from industrial raw materials and agriculture to manufactured goods with a consequent need to find new international markets.

#### A. The Supply of Investments

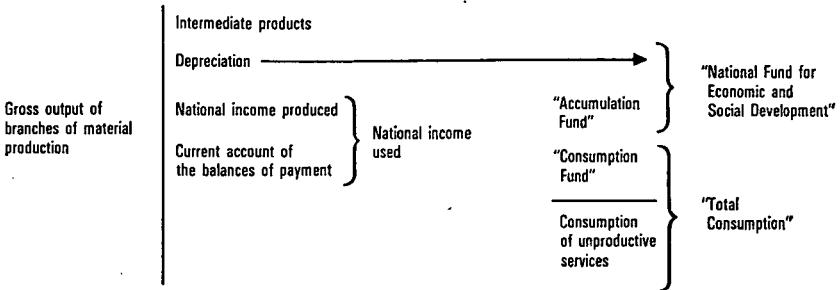
The basic problems of identifying sources of investments in Romania are illustrated in Chart 1.<sup>23</sup>

<sup>23</sup> The chart ignores losses to the economy, which are subtracted to obtain national income used, and defense goods. It is not known if defense services are considered "productive services." Its value may be subtracted before divisions of national income used are published, or may be included in accumulation along with other "nonproductive" investments.

Chart 1

## Basic Relationships in Romanian Income and Product Accounts

## Social Product



Romanian income and product accounting follows the general practice in communist countries of basing data on the combined gross output of branches of material production, a sum referred to as "social product." The sources of social product in a branch include the values of imports, fuels, and materials from other branches, and value-added by each branch. The uses of social product include exports and products available to the domestic economy, both intermediate products and two categories of final products (consumer goods and gross investment goods). The Romanian national income concept, or net material product, is similar to net national product. It is derived by subtracting intermediate products and depreciation, together called "material expenditures," from social product. The result is a measure of net final products, or net value-added. Two national income concepts are identified. "National income produced" in the country is equal to social product minus (a) "material expenditures" and (b) the balance of imports over exports. "National income used" is equal to national income produced plus the balance of imports over exports.

The import-export balance used is the balance of payments current account. When the current account balance shows a surplus, national income produced is larger than national income used; when the balance shows a deficit, Romania, in effect, has acquired a net addition of final goods through international capital transactions so that national income used is larger than national income produced.

The flow of gross or total investments, known in Romania as the "National Fund for Economic and Social Development," is influenced by three flows: (a) The division of national income used into new investment (the "accumulation fund") and consumption (the "consumption fund"); (b) the net change in foreign credits, which determines if foreign goods are available to augment national income produced; and (c) depreciation flows. Total investments equal the accumulation fund, or net investments, and depreciation.

## 1. THE ACCUMULATION FUND

Romanian data do not identify the current account of the balance of payments or any of its components in domestic prices. Only the

commodity trade balance is given, but in current foreign (devisa lei) prices. In addition, the only identification of "national income used" in the statistical yearbook is its percentage division by five-year (not annual) periods, in both current and constant prices. These data are presented in Table 7 along with supplementary data not given in the statistical yearbooks. Table 8 contains two related measures of real resources allocated to Romanian consumers. The "consumption fund" in part A of Table 8 is based on the real, or deflated, values of consumption expenditure flows, both social and private, the latter including depreciation of privately owned houses. It is shown in the only available form, an index estimating average change from one five-year period to another. "Real income of the population" is a polyglot measure, also defined as "final income of the population." It includes all earned income, income imputed from social consumption and housing depreciation, net taxes and transfers, and net changes in saving deposits. In conception, it should equal the consumption fund, plus cash accumulations and net private investment in housing.<sup>24</sup> An index value for this statistic has appeared in the statistical yearbook since 1975 for years indicated in Table 8.

TABLE 7.—THE SHARE OF NET INVESTMENT IN "NATIONAL INCOME USED"

[In percent]

Year:	Constant prices		Current prices	
	Annual	5-yr average	Annual	5-yr average
1950.....	17.6		16.1	
1951.....	23.7			
1952.....	22.6			
1953.....	21.8	17.6		24.3
1954.....	20.0			
1955.....	17.8		17.7	
1956.....	8.5-9.0			
1957.....	16.6			
1958.....	15.6	16.0		17.1
1959.....	20.1		17.3	
1960.....	19.6		19.5	
1961.....	22.3		22.4	
1962.....	22.6		22.5	
1963.....	22.6	24.3	25.5	25.5
1964.....	25.6		26.8	
1965.....	25.1		25.0	
1966.....	27.5			
1967.....	29.6			
1968.....	28.1	28.8		29.5
1969.....	30.0			
1970.....	30.3			
1971.....	31.0			
1972.....	31.0			
1973.....	NA	34.1		33.1
1974.....	NA			
1975.....	NA			
1976-80 <sup>2</sup> .....		33-34		
1981-90 <sup>2</sup> .....		30-32		

<sup>1</sup> 1971-74.<sup>2</sup> Planned.

Sources: St. Militaru, "Analiza statistica corelatiei dintre acumulare si consum in R.S. Romania," "Studii si cercetari economice, 1973": pp. 112-3; constant prices—AS 76, p. 53; current prices—AS 75, p. 57; planned—"Revista economica, 1976": 36 (September 10), p. 14.

<sup>24</sup> Sources were not clear on how financial transactions with the state for housing credit were handled. I. Capanu, "Statistica economiei nationale." Bucharest, 1974, pp. 158-159.

TABLE 8.—ESTIMATES OF THE CONSUMPTION SHARE IN NATIONAL INCOME

	1950-55	1956-60	1961-65	1966-70	1971-75	1976-80 <sup>1</sup>
A. (1) Rate of consumption in national income used:						
(a) Current prices.....	75.7	82.9	74.5	70.5	<sup>2</sup> 66.9	NA
(b) Constant prices.....	82.4	84.0	75.7	71.2	65.9	66-67
(2) Growth of the "consumption fund"—constant prices.....	100.0	130.0	173.0	234.0	328.0	486
	1950 <sup>3</sup>	1955 <sup>3</sup>	1960 <sup>3</sup>	1965 <sup>3</sup>	1970 <sup>3</sup>	1975 <sup>3</sup>
B. (1) Growth of national income:						
(a) Index.....	100	192	268	413	599	1,024
(b) Percent in 5-yr period.....		92	40	54	45	71
(2) Growth of real income of the population: <sup>4</sup>						
(a) Index.....	100	146	182	249	326	477
(b) Percent in 5-yr period.....		46	25	37	31	46
Ratio of percent growth in 5-yr periods, (2) : (1).....		.50	.625	.67	.67	.67
						.59

<sup>1</sup> Planned.<sup>2</sup> 1971-74.<sup>3</sup> Produced.<sup>4</sup> Midpoint of planned growth.<sup>5</sup> Defined in the text.

Sources: "Anuarul statistic 1975," p. 57; "Anuarul statistic 1976," p. 53; Manea Manescu, "Avutia nationala a Romaniei socialiste," "Era socialista," LV, 12 (June 1975), p. 10.

In Table 9 indices of "national income used" and the "accumulation fund" are calculated using the shares in Table 7 and consumption fund index from Table 8, part A. In the lower part of Table 9, the estimated growth, based on the average of one five-year period compared to the previous five-year period, is computed for both national income concepts; their relative growth is then compared.

TABLE 9.—ESTIMATED GROWTH OF NATIONAL INCOME USED (COMPARABLE 1963 PRICES)

	1950-55	1956-60	1961-65	1966-70	1971-75	1976-80 <sup>1</sup>
(1) The consumption fund.....	100	130	173	234	328	486
(2) The accumulation fund.....	100	116	260	443	787	1,149
(3) National income used.....	100	128	188	271	406	602
(4) National income produced.....	100	152	237	362	581	930-959
(5) National income used <sup>2</sup> .....		28	47	44	50	48
(6) National income produced <sup>2</sup> .....		52	56	53	60	60-5
Ratio of growth, (5):(6).....		.54	.84	.83	.83	.74-.80

<sup>1</sup> Planned.<sup>2</sup> Percentage growth over preceding period.

Source: Tables 7 and 8, AS-71, and AS-76; indices of national income used and the accumulation fund calculation are from the growth rate of the consumption fund and shares in national income used in constant prices.

Data in Table 9 must be interpreted with caution. Both national income indices have been deflated by unexplained and probably differing price series. They may also be influenced by changes in the underlying activity classifications. Moreover, the absolute values of the magnitudes are not established by the indices. Montias' estimates of national income produced and used in current prices show the latter larger by some 10 percent in 1963, a difference that may be underestimated.<sup>25</sup> In any case, the relationships that are of interest in this paper are those from the middle 1960s and the apparent planned

<sup>25</sup> If the percentage distributions of national income used into consumption and accumulation did not include losses and defense expenditures, then such an underestimation would have taken place. See Montias, "Economic Development in Communist Romania," pp. 267-279.

relationship for 1976-80. Given what is known about Romania's debts to the West and trade balance, it is somewhat surprising that the ratios of growth of national income produced and used were so constant from 1960 to 1975 when the latter's growth (for five-year periods) was always 83 to 84 percent of the former's growth. In Table 8, part B, a similar constancy shows up in the ratio of growth of real incomes of the population to national income produced.

The ratios of growth of national income produced to national income used imply that about 16 to 17 percent of the growth of national income produced was allocated to a combination of reducing a deficit (or increasing a surplus) in the current account of the balance of payments and to increasing material defense expenditures and losses to the national economy. No estimates of the division of the increases into the three alternatives are available.<sup>26</sup> In 1976-80, the planned allocation of national income growth to these uses rises significantly to 20 to 26 percent and, as discussed below, it coincides with indications of Romania's intent to obtain large current account surpluses for the repayment of foreign debt.

## 2. DEPRECIATION

Romanian statistical practice identifies the share of material expenses (intermediate products and depreciation), in social product in current (but not constant) prices. The share of depreciation remains unidentified and data are unavailable to suggest the levels of depreciation charges. Estimates of capital retirement are provided in Table 10. They vary greatly as a percentage of total investments on an annual basis, averaging 12.4 percent for 1966-70 and 10.1 percent for 1971-75. If depreciation followed capital retirement in these years, then part of the slower growth of net final production in 1966-70 compared to 1971-75 observed in both concepts of national income would be explained by greater depreciation charges against gross final production in the earlier period.

TABLE 10.—CAPITAL RETIREMENTS AND TOTAL INVESTMENTS

(In billions of "constant 1973" lei)

Year:	Fixed capital stock (yearend) (1)	Change in fixed capital stock (2)	New fixed capital commissioned—Socialist sector (3)	Private investments (4)	Estimated capital replacements, (3)+(4)-(2) (5)	Total investments (6)	Ratio, (5)/(6) (7)
1975.....	1,203.5	128.4	125.4	7.1	4.1	137.7	-----
1974.....	1,075.1	98.4	107.5	7.2	16.3	119.7	-----
1973.....	967.7	83.3	85.8	6.4	8.9	105.7	-----
1972.....	893.4	68.2	77.2	5.8	14.8	97.5	-----
1971.....	825.2	68.2	73.7	5.8	11.4	88.4	-----
<b>Total.....</b>		<b>446.4</b>	<b>469.6</b>	<b>32.3</b>	<b>55.4</b>	<b>549.0</b>	<b>10.1</b>
1970.....	757.1	60.2	69.0	5.2	14.0	80.0	-----
1969.....	696.9	65.1	62.6	3.3	.8	71.7	-----
1968.....	631.8	40.1	55.2	2.7	17.8	67.3	-----
1967.....	591.7	50.2	47.3	2.7	-.2	60.2	-----
1966.....	541.5	40.1	46.2	2.4	8.5	51.6	-----
<b>Total.....</b>		<b>255.7</b>	<b>280.3</b>	<b>16.3</b>	<b>40.9</b>	<b>330.8</b>	<b>12.4</b>

Sources: AS-71, pp. 115, 514-5, 472; AS-75, pp. 290, 332; AS-76, pp. 56, 274, 325.

<sup>26</sup> Again, this assumes that material losses and material defense expenditures are subtracted before national income used is divided into accumulation and consumption.

A different view of depreciation is presented in Table 11. Here the estimated growth of the accumulation fund, or net investment, is compared to the growth of total investments. For all three periods, 1961-75, net investment grows more rapidly than total investment. Once again, greater depreciation in 1966-70 may account for a slower growth of the accumulation fund (and national income) compared to 1971-75. Estimates for the plan period, 1976-80, suggest a much different experience. Accumulation or net investment is not planned to increase as a percentage of national income used as it had done in all previous periods. National income used also is planned to grow more slowly compared to national income produced than in previous periods. As this happens, total investment growth will sharply increase to 82 percent, while national income produced will increase about 60 to 65 percent (see Table 9 above). There is a clear implication that depreciation as a share of social product and as a share of total investments will sharply increase in 1976-80.

TABLE 11.—THE RELATIVE GROWTH OF GROSS AND NET INVESTMENTS

	1956-60	1961-65	1966-70	1971-75	1976-80 <sup>†</sup>
(1) The accumulation fund (net investment):					
a. Index, 1950-55=100.....	116	260	443	787	1,149
b. Percent change in each period.....	16	124	70	78	46
(2) The national fund for economic and social development (gross investment):					
a. Index, 1950-55=100.....	162	323	534	887	1,615
b. Percent change in each period.....	62	99	66	62	82
(3) Ratio of percentage growth (1):(2).....	.26	1.25	1.06	1.26	.56

<sup>†</sup> Planned.

Sources: Table 9; gross or total investment from AS, various years, and "Scinteia," July 3, 1976.

## B. Investment Supplies and the International Economy

### 1. THE BALANCE OF PAYMENTS

Romania has not published a complete balance of payments and, as is the case with other CMEA members, estimation of it is very difficult. Not only are trade balances published only in foreign prices without indications of other items in the current account, but also trade flows and related international monetary transactions fall into three categories, necessitating separate balances of payments. These categories are comprised of trade and credit flows with (a) other members of CMEA in convertible rubles, (b) other countries, usually less developed countries and other socialist countries, in bilateral clearing agreements, and (c) the developed capitalist countries in convertible currencies. To further confuse estimation, convertible currency transactions now take place, probably with increasing frequency, with countries in groups (a) and (b) and, also, with the International Monetary Fund (IMF) and other international agencies.

The officially reported commodity trade balances that give rise to the bulk of international transactions are presented in Table 12.<sup>27</sup>

<sup>27</sup> According to the head of the Romanian Foreign Trade Bank, the volume of foreign exchanges (decontari) grew 21 percent from 1969 to 1970 and in the latter year were composed of commercial operations (75.5 percent), external credit (17.3 percent), and tourism (7.2 percent). The figures presumably reflect both sides of the balance of payments when Romanian enterprises, other banks and agencies, and citizens are either credited or charged internal lei for foreign currency obtained or given up. It is not known if bilateral clearing transactions are included. Vasile Volesenie, "Rolul activ al Bancii Romane de Comert Exterior," "Finanti si Credit," 1971-8, p. 17.

The balances do not reflect invisible transactions, transfers, and capital transactions.<sup>28</sup> The division of trade by groups of trading partners is that used by Montias. It should not be compared with similar data without explicit reference to the listing of countries in each division. The data in Table 13 are a case in point. The devisa lei trade balances with the developed capitalist countries from Table 12 have been converted in line 3 to dollars at official Romanian exchange rates. In line 4(a) similar estimates by Snell are presented in which there is some variation of country groupings. Snell's estimates of Romania's "other" convertible currency trade are given in line 4(b). Line 4(c) presents his estimates of Romania's convertible currency deficits on current account (without capital transactions) and line 5 shows his estimates of Romania's end of year debts with the West. By comparison, line 6 presents the Chase Manhattan Bank estimates of Romania's convertible currency commodity trade balances, defined as including balances of all "nonsocialist" countries that did not have bilateral agreements with Romania as listed in IMF sources. Line 8 shows the Chase estimates of Romania's debts to the West for 1974 and 1975.

<sup>28</sup> In reference to the credit side of the balance of payments, tourism was reported to account for "slightly over 2 percent" and "about 4 percent" of total earnings from exports of goods and services in 1965 and 1972. "Turismul-ramura a economiei nationale", Bucharest, 1973, p. 48.

TABLE 12.—COMMODITY TRADE BALANCES BY GROUPS OF COUNTRIES

[Million current devisa lei]

	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1980 plan		
												1976	Preliminary	Final
Total trade.....	13,072	14,396	17,649	18,465	20,242	22,866	25,222	28,838	35,994	49,789	53,095	60,794	91,554	103,907
Exports.....	6,609	7,117	8,372	8,811	9,799	11,105	12,606	14,373	18,576	24,226	26,547	30,503	47,817	NA
Imports.....	6,463	7,279	9,277	9,277	10,443	11,761	12,616	14,465	17,418	25,563	26,548	30,291	43,737	NA
Balance.....	146	-162	-162	-905	-644	-656	-10	-92	1,158	-1,331	-1	212	4,080	
1. CMEA:														
Exports.....	4,212	3,985	4,214	4,589	5,064	5,582	6,048	6,877	8,457	8,849	10,300			
Imports.....	3,717	3,847	4,150	4,446	4,836	5,631	5,843	6,566	7,083	8,401	9,849			
Balance.....	493	138	64	143	228	-49	205	311	1,374	448	451			
2. Other socialist:														
Exports.....	323	427					1,109							
Imports.....	239	318	374			662	948							
Balance.....	84	109					161							
3. Developed:														
Exports.....	1,643	2,129	2,641	2,643	2,959	3,542	4,297	4,915	7,205	10,191	9,081			
Imports.....	2,148	2,770	4,364	4,158	4,382	4,640	4,990	5,911	7,797	12,433	11,197			
Balance.....	-505	-641	-1,723	-1,515	-1,423	-1,098	-693	-996	-592	-2,242	-2,116			
4. Less developed:														
Exports.....	431	576	996			1,110	1,152							
Imports.....	357	344	389			770	835		19		19.5		30	
Balance.....	74	232	607			340	314							
5. (3) and (4):														
Exports.....							2,261	2,581	2,914	5,186	7,166			
Imports.....							1,783	1,988	2,538	4,729	5,502			
Balance.....							478	593	376	457	1,664			

1 Percentage of total trade by Romanian classification.

2 Percentage of total trade by Romanian classification.

3 Percentage of total trade by Romanian classification.

Sources: Except as otherwise noted, J. M. Montias, "Romania's Foreign Trade Between East and West," presented at the Conference on Integration in Eastern Europe and East-West Trade, Indiana University, Oct. 31, 1976. 1975 CMEA and 1972-75 total of less developed and other socialist. "Statisticheskii Ezhegodnik: Stran-chlenov Soveta Ekonomicheskoi Vzaimopomoshchi 1976," p. 341.

TABLE 13.—ESTIMATES OF CONVERTIBLE CURRENCY DEFICITS AND DEBTS

[In million of devisa lei and dollars]

	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975
1. Commodity trade balances—D.C. (devisa lei).....	-505.0	641.0	-1,723.0	-1,515.0	-1,423.0	-1,098.0	-998.0	-996	-592	-2,242	-2,116
2. Devisa lei ratio dollars.....	6.0	6.0	6.0	6.0	6.0	6.0	6.0	5.53	5.53:4.97	4.97	4.97
3. Item 1 in dollars.....	-84.2	-106.8	-287.2	-252.5	-237.2	-183.0	-115.5	-180.1	-117.1	451.1	425.8
4. Snell estimates:											
(a) Commodity balance with industrial West.....	-92.7	-109.6	-266.2	-257.3	-250.9	-205.9	-211.4				
(b) Convertible currency balance with L.D.C.'s.....	3.2	9.4	3.9	6.5	4.3	-6.6	-5.8				
(c) Total balance of goods, services, and transfers.....	-93.2	-111.2	-303.4	-275.1	-281.2	-291.3	-285.3				
5. Snell's yearend gross debt <sup>2</sup> .....	338.2	424.5	702.9	953.0	1,209.2	1,475.5	1,809.1				
6. Chase-Brainard convertible currency commodity trade.....							-97.0	-166	-196	-416	-325
7. Chase-Brainard yearend gross debt <sup>2</sup> .....										2,400	2,800
8. Chase-Brainard yearend net debt.....										(2,200)	(2,300)

<sup>1</sup> Change in devisa lei on March 1973; values converted on 25:75 of the year.<sup>2</sup> Gross debt does not consider changes in Romania's holdings of gold and convertible currencies.

Sources: (4) and (5)—Snell, op. cit., p. 718. (6)—(8)—the Chase Manhattan Bank.

Up to 1971, differences in lines 3 and 4(a) may be accounted for by differences in the inclusion of countries. But Snell's deficit for 1971 looks mistakenly large (it seems to arise from the import side, which is not shown in the table). For 1971 and after, lines 3 and 6 differ because of the greater number of country balances included in line 6. Movements are similar except in 1973 and 1975. There is no obvious accounting for differences in 1973.<sup>29</sup> However, 1975 differences are consistent with the effort Romania is known to have made to increase trade with the less developed countries (as revealed in Table 12).

A complete view of Romania's convertible currency trade, which influences her ability to sustain deficits and debt with the West, must include her convertible currency trade with Socialist countries. Romania is known to have recently sold grain to CMEA countries on this basis. Increased possibilities are demonstrated by the 10 to 15 percent of Hungary's trade turnover with Socialist countries in 1973-75 that was in convertible currencies and that earned Hungary an estimated positive balance of \$174 million in 1975.<sup>30</sup> The only Romanian evidence of its convertible currency balance was given in a speech by President Ceausescu on November 28, 1973, in which he referred to preliminary estimates for 1973 and planned figures for 1974, giving exports and imports in totals and in convertible currencies (*devisa libere*). The data are given in Table 14 along with the actual totals for 1973 and 1974 subsequently reported in the statistical yearbooks. Obviously, as one can see, it was becoming very difficult for Romanian planners to forecast world price changes. The 1973 preliminary estimates were 2.8 and 4.3 percent short of total exports and imports, and the 1974 plan figures were much further off the mark so that actual total trade balance was 4,102 million *devisa lei* less than planned. Given these errors, Ceausescu's figures may be discounted but they merit an attempt to derive corrected estimates for 1973. Suppose the least optimistic assumptions are made for 1973, that none of the increase in actual exports over estimated exports was convertible currency, but all of the increase in actual imports over planned imports was convertible currency. This would result in a convertible currency deficit of 645 million *devisa lei*, or about \$129 million. Using a similar procedure with the 1974 planned figures, except assuming all the decrease in actual over planned exports was convertible currency, results in a deficit of 1.916 million *devisa lei*, or about \$386 million. The change from \$129 million in 1973 to \$386 million in 1974 is not far off from a 1975 report by Ceausescu that, "In 1974 we registered a growth of the deficit in the convertible currencies balance of about \$200 million."<sup>31</sup> Both figures show smaller convertible currency deficits than the Chase-Brainard estimates in Table 13. The differences may be accounted for by convertible currency surpluses with socialist countries of \$67 million in 1973 and \$30 million in 1974. In any case, it appears that Romania has succeeded in offsetting convertible currency trade deficits with the West with significant convertible currency surpluses with both the socialist and the developing countries.

<sup>29</sup> In part, differences may arise because of different rates of conversion of *devisa lei* to dollars.

<sup>30</sup> Lawrence J. Brainard, "Eastern Europe's New Five-Year Plans: The Outlook for Intra-CMEA and East-West Trade," a paper presented at the meetings of the American Association for the Advancement of Slavic Studies, St. Louis, October 6-9, 1976, p. 13.

<sup>31</sup> *Scienteia*, Feb. 15, 1975.

TABLE 14.—ROMANIAN ESTIMATES OF CONVERTIBLE CURRENCY TRADE

[In millions of devisa lei]

	Total trade			Trade in convertible currency		
	Exports	Imports	Balance	Exports	Imports	Balance
1. 1973 preliminary (November 1973).....	18,066	16,693	+1,373	8,092	8,012	+80
2. 1973 actual.....	18,575	17,418	+1,157			
3. Difference (2)-(1).....	+509	+725	-216			
4. 1974 as in the 5-yr plan.....	18,145	14,792	+3,353	8,189	5,748	+2,441
5. 1974 as planned in November 1973.....	25,934	23,169	+2,765	14,268	12,082	+2,186
6. 1974 actual.....	24,226	25,563	-1,337			
7. Difference (5)-(6).....	-1,708	+2,394	-4,102			

Source: Actual—A.S.-76, p. 385. Other—Nicolae Ceausescu, "Romania pe drumul construirii socialiste multilateral dezvoltate," vol. 9, Bucharest, 1974, pp. 604-5.

Another problem in analyzing Romania's balance of payments is to estimate capital transactions with CMEA, other socialist countries, and the L.D.C.s. What strikes one in the case of CMEA is that Romania, one of the least developed members, continuously has maintained a positive trade balance with other CMEA members. Romania probably acquired additional current account surplus from tourism within CMEA on the one hand, but additional deficits for transportation and communications on the other. Romania's overall credit position with CMEA is unreported. Through 1972, at least, Romania was the only member of the CMEA International Investment Bank to borrow in excess of its capital contribution. Its credits totaled 78.8 million transferable rubles (525.6 million devisa lei), or 26.8 million TR in excess of its contributions.<sup>32</sup> When such credits were received in imports, they would have tended to reduce Romania's positive CMEA rate balance. This happened only in 1970 when imports from CMEA increased by an unusual amount (see Table 12). It is possible that Romania has settled some CMEA balances through switch-trading or through deliveries of military supplies not shown in the published trade data. Otherwise, the curiousness of Romania's creditor position remains.

Romania is also a known creditor, not in money but goods, of the developing countries, especially in so-called cooperation ventures for which compensation payments are made in goods.<sup>33</sup> As in the case of CMEA credits, there seems to be no way of evaluating Romania's credit position with the developing countries. Still, it may be assumed that stepped-up exports of machinery to the L.D.C.'s has required credits. Considering recent Romanian trade surpluses with CMEA, other socialist, and developing countries, a growing credit position must have reduced available domestic investments.

## 2. TERMS OF TRADE

No direct measures of Romania's terms of trade are available since 1966. For the period from 1960 to 1966, according to official unit-value indices cited by Montias, Romania was favored by about a 3 percent increase in export prices and a 3 percent decrease in import prices.

<sup>32</sup> J. T. Crawford and John Haberstroh, "Survey of Economic Issues in Eastern Europe: Technology, Trade, and the Consumer," in Joint Economic Committee, *op. cit.*, pp. 43-44.

<sup>33</sup> See Radio Free Europe, RAD Background Report 1180 (Romania), 22 December 1975.

Since 1966, Montias suggests that Romanian foreign trade prices may be judged by the Hungarian experience. If so, from 1966 to 1972, export prices would have been unchanged while import prices rose by about one percent per year. After 1972, Romania import and export prices rose rapidly according to the following price indices:<sup>34</sup>

Exports:	
1972	100.0
1973	110.4
1974	133.3
1975	141.8
Imports:	
1972	100.0
1973	109.5
1974	135.1
1975	142.6

These approximate indicators imply that Romania has probably avoided any adverse changes in terms of trade since 1972 and, in this respect, has been in a favorable position compared to other East European members of CMEA.

### 3. SUMMARY

In the five-year period, 1966 to 1970, Romania made extensive use of credit from the West to increase supplies of investments. By Snell's estimates, debt to the West increased nearly \$1,135 million. In the period of the next five-year plan, gross debt increased \$1,300 million, but net debt, taking into consideration Romania's convertible currency holdings, increased by only about \$900 million.<sup>35</sup> Gross debt increased about 100 percent at a time when exports to developed capitalist countries increased in current value about 150 percent and exports in convertible currencies may have increased even more. Romania's ratio of net debts to exports inconvertible currencies must have decreased significantly from 1970 to 1975. In 1975 and in 1976, the ratio was estimated at 1:2 to 1:3, significantly lower than any other East European member of CMEA except Czechoslovakia.<sup>36</sup>

Romania has planned large trade surpluses for 1976-80. The large turn-around in surplus from 1974 to 1976 indicated the economy had taken a significant step towards realizing the plan, but it may have suffered a setback with the 1977 earthquake. Export deliveries probably have been delayed while priority imports accelerated, in part financed by international assistance and, in part taking the place of non-priority imports. How quickly the country recovers and what the net effect on the trade balance will be is difficult to predict at this point.

Since 1973 a major shift of Romania's trade toward the less developed countries has taken place. According to Romania's country classification, the total trade percentage with LDC's increased from 9 percent in 1973 to 19.5 percent in 1975. Further increases to 25 percent by 1977-78 and to 30 percent by 1980 are planned. The

<sup>34</sup> Montias reports deflated percentage increases of exports and imports derived by using Hungarian price indices for four commodity groups in trade with dollar and ruble areas. The above indices are, accordingly, the Hungarian indices weighted by the commodity and area composition of Romanian trade estimated by Montias. J. M. Montias, "Romania's Foreign Trade Between East and West," *op. cit.*, pp. 3-4.

<sup>35</sup> Snell does not provide data to estimate net debt for the earlier period. Net debt estimates were provided by the Chase Manhattan Bank and Lawrence Brainard.

<sup>36</sup> Chase-Brainard data.

strategy of this shift calls for Romania to import commodities directly from LDC's that have been purchased through western intermediaries and to pay in exports of manufactured goods, technical assistance, and construction services.<sup>37</sup> Such trade diversion probably accounts for the decrease in trade with developed countries in 1975. Since a portion of the diverted trade no doubt will be conducted in clearing agreements and compensation, and will involve Romanian extensions of credit, the overall effects will further confuse analysis of the Romania trade and credit position.

Romanian efforts to slow the growth of or to reduce her debts to the West, the increases in her trade surplus with CMEA, and her large surpluses with the rest of the world, some of which have involved Romanian credit, account for the trend of national income produced to rise faster than national income used in the periods 1971-75 and planned 1976-80. It is more difficult to explain the near constancy of growth ratios going back to 1960. The increase in the ratio from 1956-60 to 1961-65 may be the result of improved terms of trade and western credits. But, with the much larger flow of western credits in 1966-70, one would have expected a greater growth of national income used relative to national income produced than was estimated. Unless the estimates are far off the mark, there ought to have been changes to offset western credits in the current balance or more differences between national income produced and used than the current balance shows. Possible offsets could have been unreported imports of military supplies or increased shares of defense expenditures not reported in national income used.

Romania's determination to increase net exports in 1976-80, combined with a constant ratio of accumulation in national income, would imply a slower growth of investments. However, total investment growth increased over 1971-75, which implies an increased share of depreciation charges in social product. Phrased in western concepts, gross final output (or gross national material product) is planned to grow much faster than national income or net material product. In terms of gross final output, Romania is apparently projecting even greater increases of productivity than those indicated in table 3.

### *C. Investment Allocations and the Growth of Industry*

The achieved and planned allocations of total investments outlined in Table 15 reveal a major increase in the commitment to industry. After receiving a nearly constant 50 percent share up to 1975, industry's share of total investments in 1976-80 increases to 58 percent, or to two-thirds of the total planned increase of investments over 1971-75. Agriculture's planned share decreases in 1976-80, but the smaller expected share of agriculture in labor and total output must be kept in mind. With the agricultural labor force falling by 25 percent, the 51 percent increase in investments will result in a very large increase in investments per occupied person.

<sup>37</sup> In 1974 President Ceausescu stated, "It is correct that because of the methodology of calculation, these figures [trade by countries] do not mirror all of our economic relations with the respective countries. Trade in convertible currencies is included under the heading of exchanges with capitalist countries. Probably it will be necessary to review this form of accounting in order not to deform reality. In reality [trade with less-developed countries] has a weight much greater than is shown in the statistics." "Cuvintare la constatarea cu activul de partid si de stat din domeniul comerului exterior si cooperarii economice internationale," 16 mai 1974. Bucharest, 1974, p. 8.

TABLE 15.—ALLOCATIONS OF TOTAL INVESTMENT FUNDS

Sector	1951-65 <sup>1</sup>		1966-70		1971-75		Planned, 1976-80	
	Bil lei	Percent	Bil lei	Percent	Bil lei	Percent	Bil lei	Percent
Industry.....	171.1	47.3	165.4	50.0	277.2	50.5	580.5	58.1
Group A.....	(151.0)	(41.7)	(140.1)	(42.4)	(231.3)	(42.1)	NA	-----
Group B.....	(20.1)	(5.6)	(25.3)	(7.6)	(45.9)	(8.4)	NA	-----
Construction.....	9.5	2.6	12.8	3.9	25.9	4.7	34.1	3.4
Agriculture.....	60.3	16.7	51.6	15.6	77.0	14.0	116.4	11.6
Forestry.....	2.7	.7	1.5	.5	2.2	.4	-----	-----
Transportation and communications...	32.1	8.9	33.9	10.2	55.7	10.1	95.3	9.5
Research and development.....	3.4	.9	2.0	.6	3.8	.7	7.7	.8
Trade.....	8.6	2.4	9.5	2.9	19.4	3.5	26.0	2.6
Education.....	5.9	1.6	5.0	1.5	8.6	1.6	} 22.4	} 2.2
Culture.....	3.2	.9	1.6	.5	1.6	.3		
Health.....	5.2	1.4	4.1	1.2	5.2	.9		
Municipal services.....	9.8	2.7	9.0	2.7	16.0	2.9	25.0	2.5
Housing.....	45.0	12.4	31.4	9.5	50.8	9.3	82.3	8.2
Other.....	3.4	.9	3.1	.9	5.6	1.0	10.3	1.0
Total.....	361.8	100.0	330.8	100.0	549.0	100.0	1,000.0	100.0

<sup>1</sup> In prices of 1959; other years in 1963 prices.

Sources: 1971-75, "Anuarul statistic 1976," pp. 278-9. 1976-80, "Scinteia," July 3, 1976.

As yet no data are available on planned investments by branch of industry for 1976-80 (no fixed capital data are available for industry branches even before 1975). The only available figure from the preliminary plan presented in the Eleventh Party Congress Directives stated that electric power, metallurgy, machine building, and chemicals would receive 70 percent of total investments in industry. This figure exceeds their share of 62.2 percent in the 1971-75 period, affirming Romania's intention to continue a priority development of heavy industry.

Table 16 provides further insight to Romania's industrialization strategy. The center columns show the shares of each branch in gross industrial output for 1965, 1970, and 1975, together with the respective shares of total investments and additional labor during the five-year periods, 1961-65, 1966-70, and 1971-75. In the first column, Montias' calculations of relative capital:labor ratios in 1963 are shown; the final column to the right shows the ratios of each branch's share of investments divided by the share of labor for 1971-75. The table suggests both the commitments to branches and the relative factor proportions used in the branches.

TABLE 16.—RELATIVE OUTPUTS AND INCREASED INPUTS BY BRANCH INDUSTRY

	Montias' relative capital: labor ratio, <sup>1</sup> 1963	Share of total (percentage)			Relative investment: labor ratio <sup>2</sup> 1971-75
		1961-65	1966-70	1971-75	
Electric power	7.78				34.25
Output <sup>3</sup>		2.6	3.2	2.7	
Additional labor		4.4	1.1	.4	
Total investments		13.4	14.7	13.7	
Fuels	3.84				21.0
Output <sup>3</sup>		7.0	5.3	3.6	
Additional labor		2.6		.6	
Total investments		21.0	16.2	12.6	
Ferrous metallurgy	2.00				4.0
Output <sup>3</sup>		8.3	8.5	7.9	
Additional labor		3.0	2.8	2.2	
Total investment		10.3	10.1	8.8	
Nonferrous metallurgy	.77				2.17
Output <sup>3</sup>		3.2	3.3	2.8	
Additional labor		4.8	1.7	1.7	
Total investments		6.3	3.5	3.7	
Machine building and metal working	.55				.41
Output <sup>3</sup>		21.2	25.0	32.4	
Additional labor		27.0	36.0	49.7	
Total investment		8.8	14.6	20.2	
Chemicals	1.97				2.05
Output <sup>3</sup>		6.7	10.1	11.3	
Additional labor		8.9	11.3	7.7	
Total investment		14.1	13.8	15.8	
Building materials	.88				2.85
Output <sup>3</sup>		3.6	3.4	3.1	
Additional labor		5.6	5.0	2.0	
Total investment		4.2	5.3	5.7	
Lumber and woodworking	.33				1.21
Output <sup>3</sup>		8.2	6.4	4.7	
Additional labor		15.4	5.9	2.8	
Total investment		6.8	4.7	3.4	
Cellulose and paper	2.21				2.13
Output <sup>3</sup>		1.2	1.4	1.2	
Additional labor		2.7	1.1	.8	
Total investment		4.8	1.4	1.7	
Glass and porcelain	.45				.32
Output <sup>3</sup>		.6	.6	.6	
Additional labor		1.3	1.4	1.9	
Total investment		.5	1.5	.6	
Textiles	.41				.23
Output <sup>3</sup>		11.6	11.5	11.9	
Additional labor		13.3	21.5	21.1	
Total investment		3.2	4.5	4.8	
Leather and hides	.27				.16
Output <sup>3</sup>		2.4	2.1	1.9	
Additional labor		1.9	5.1	2.5	
Total investment		.5	.7	.4	
Food processing	.77				1.19
Output <sup>3</sup>					
Additional labor					
Total investment		5.1	6.5	6.3	
Other	NA				1.85
Output <sup>3</sup>		1.4	1.5	2.5	
Additional labor		1.0	.8	1.3	
Total investment		1.1	2.4	2.4	

<sup>1</sup> Percentage share of fixed capital divided by percentage share of labor.

<sup>2</sup> Percentage shares of fixed capital unavailable after 1963. Ratios are percentage share of investment divided by percentage share of the change in labor.

<sup>3</sup> Output shares for 1965, 1970, and 1975.

Sources: John Michael Montias, "Economic Development In Communist Romania," M.I.T. Press: Cambridge, Mass., 1967, p. 61. "AS-76", pp. 98-9, 126-7, and 284-5.

Attention is first drawn to the output shares, which may be compared to the actual and planned rates of growth of gross output in Table 17. It is evident in these tables that a high priority is given to the machinery and metal processing branch and the chemical branch up to 1975. In spite of Romania's relatively low level of development, in 1975 the shares of these relatively advanced branches in total industrial output were larger than (a) in Bulgaria, Poland, and Hungary for machinery and metal processing, and (b) in the Soviet Union, Czechoslovakia, Bulgaria, and Hungary for chemicals.<sup>38</sup> The pattern of planned growth in 1976-80 shows a continued emphasis on chemicals with a slightly reduced emphasis on machinery and metal processing. Still, the Eleventh Party Congress Directives called for this branch's share in gross output to rise to 34 percent in 1980 (compared to 32.4 percent in 1971-75); combined with chemicals, the two branches will reach almost 50 percent of industrial output (and will supply almost 50 percent of total exports, as planned).

TABLE 17.—ANNUAL AVERAGE RATES OF GROWTH OF INDUSTRIAL OUTPUT

	1951-60	1961-65	1966-70	1971-75	Planned 1976-80
1. Total industry.....	13.0	13.8	11.9	12.4	10.2-11.2
Group A.....	14.8	15.7	12.9	13.3	-----
Group B.....	10.7	10.5	9.8	10.4	-----
2. Thermal and electric power.....	15.5	20.6	16.6	13.2	6.7-7.7
3. Fuels.....	10.4	8.0	6.0	5.6	6.8-8.3
Coal.....	7.5	7.1	10.3	7.8	-----
Coke.....	34.2	7.1	1.0	7.2	-----
Petroleum.....	10.2	7.6	4.7	4.4	-----
Extraction.....	9.6	3.0	1.3	2.0	-----
Refining.....	10.5	9.9	6.5	5.7	-----
Natural gas.....	13.9	18.5	8.8	7.2	-----
4. Ferrous metals.....	14.2	11.3	12.3	11.8	-----
Metallurgy.....	14.2	11.7	12.3	11.9	11.6-12.6
5. Nonferrous metals.....	14.5	13.5	12.4	11.2	-----
6. Machines and metal processing.....	19.3	17.0	15.8	16.9	11.8-12.6
Machine building.....	21.6	16.1	15.9	17.8	-----
Electrical engineering.....	24.0	26.1	20.4	21.1	-----
Metal products and construction.....	18.5	17.0	19.6	16.7	-----
Repairs.....	12.6	13.5	6.4	6.9	-----
7. Chemicals.....	20.7	25.6	21.4	18.6	15.2-16.5
8. Mineral extraction.....	23.2	17.6	9.9	13.5	-----
9. Construction materials.....	15.1	16.0	13.0	11.5	-----
10. Forestry and woodworking.....	10.4	13.1	6.5	6.4	9.0-10.0
Forestry.....	7.3	8.4	-1.4	-1.5	-----
Woodworking.....	12.2	15.1	9.0	8.5	4.6-5.7
11. Pulp and paper.....	8.7	19.1	14.3	11.7	-----
12. Glass and ceramics.....	13.3	12.3	12.0	13.1	-----
13. Textiles.....	8.9	10.4	11.1	11.6	-----
14. Clothing.....	9.2	11.2	12.4	14.7	-----
15. Leathers and footwear.....	9.4	10.3	9.5	9.3	18.0-8.7
16. Printing.....	13.4	14.8	7.1	4.4	-----
17. Soaps and cosmetics.....	10.8	8.4	9.3	10.0	-----
18. Food.....	9.1	8.4	6.5	7.0	7.7-9.2

<sup>1</sup>Light industry.

Sources: "AS-76," pp. 90-93, and "Scinteia," July 3, 1976.

Romania's machine building industry in the past has been a heavy user of labor inputs and even in 1971-75 had a low ratio of investment share to incremental labor share. As best as can be judged with available data, the pattern of relative factor shares among industry branches appears to be stable. How much this reflects technological constraints

<sup>38</sup> "Statisticheskii ezhegodnik, stran-chlenov Soveta Ekonomicheskoi Vzaïmopomoshchi 1976." Moscow, p. 73.

as opposed to a special Romanian development strategy bears further research. In any case, one sees clearly where incremental labor has been concentrated since nearly half was absorbed in machine building in 1971-75, and over 70 percent in machine building plus textiles.

#### *D. The Sources and Uses of Industrial Products*

Important detail on Romania's industrialization effort may be found by examining the four broad commodity trade balances which are reflected in Table 18. Romania's trade plans call for exports and imports in 1976-80 to average, respectively, 11.8 to 13.1 and 9.8 to 11.2 percent above their values for 1971-75.<sup>39</sup> It may be assumed that these figures approximate the compound growth rates of 1980 over 1975. The planned import structure is not known for 1980. The only available version of the planned export structure unfortunately follows a different commodity structure than in Table 18.<sup>40</sup> With the 1975 exports rearranged, these data provide trade projections (Table 19).

<sup>39</sup> After publication of these figures, the overall foreign trade turnover target was raised from 72 to 80 percent to 90 to 101.4 percent, but revised targets for exports and imports have not been found.

<sup>40</sup> Manea Manescu, "Avutia nationala a Romaniei Socialiste (11)," "Era socialista, LV:12" (June 1975), pp. 6-7. Manescu's estimates for the 1975 export structure in the four categories in the table were 23.5 percent, 13.0 percent, 30.8 percent, and 32.7 percent, respectively. Expected exports of machinery were exceeded; those for chemicals fell short.

TABLE 18.—COMMODITY TRADE BALANCES

[Million current devisa lei]

	1965	1966	1967	1968	1969	1 1970	1971	1972	1973	1974	1975
<b>I. Machinery and equipment:</b>											
Exports.....	1,223	1,235	1,589	1,880	2,122	2,511	2,912	3,576	4,539	4,984	6,722
Imports.....	2,517	2,983	4,528	4,511	4,624	4,655	5,315	6,770	7,448	8,698	9,214
Balance.....	(-1,348)	-1,294	-2,939	-2,631	-2,502	(-2,204)	-2,444	-2,403	-3,094	-2,909	-2,492
<b>II. Industrial materials:</b>											
Exports.....	3,252	3,385	3,521	3,687	3,986	4,789	5,128	5,202	6,679	10,480	11,205
Imports.....	3,311	3,535	3,855	4,200	4,830	5,833	5,750	6,314	8,243	13,720	14,395
Balance.....	(-20)	-59	-334	-513	-844	(-1,028)	-1,044	-622	-1,112	-1,564	-3,190
<b>III. Food-stuffs:</b>											
Exports.....	1,405	1,686	2,333	1,973	2,151	1,793	2,247	2,877	3,857	4,921	4,340
Imports.....	202	229	255	343	398	630	917	736	1,020	2,143	1,940
Balance.....	(1,219)	1,203	1,457	1,630	1,753	(1,209)	1,163	1,330	2,141	2,837	2,400
<b>IV. Manufactured consumer goods:</b>											
Exports.....	729	811	930	1,271	1,539	2,012	2,320	2,719	3,500	3,841	4,279
Imports.....	434	533	637	599	591	643	634	745	817	1,002	1,001
Balance.....	(295)	295	293	672	948	(1,368)	1,369	1,686	1,974	2,193	3,278

<sup>1</sup>Slight changes in classification occur from 1971 and after: balances by the post-1970 classification are shown in parenthesis for 1965 and 1970.

Sources: "AS-71", pp. 616-9, and "AS-76", pp. 384-385.

TABLE 19.—PLANNED GROWTH OF EXPORTS AND OUTPUT—1980

	Foreign trade—Current prices					
	Annual 1975		Planned 1980		Growth 1980/ 1975	Planned output constant prices, growth 1980/1975
	Value (million devisa lei)	Percent	Value (million devisa lei)	Percent		
A. Total exports .....	26,546.9	100.0	47,817	100.0	180.1	
1. Machinery and equip- ment .....	6,722.4	25.3	15,206	31.8	226.2	175-181.
2. Chemicals .....	2,857.0	10.8	7,651	16.0	267.8	203-215.
Industrial materials .....	8,349.0	31.4	10,328	21.6	123.7	
(a) Fuels, minerals, and metals .....	(5,911.9)					138-145.1 139-149.2 178-181.3
(b) Construction materials .....	(772.0)					154-161.4 125-152.5
(c) Other nonfood materials .....	(1,665.1)					
4. Consumer goods .....	8,618.5	32.5	14,632	30.6	169.8	
(a) Food raw ma- terials .....	(1,517.8)					Agriculture, 128-144.
(b) Processed foods .....	(2,821.8)					Food, 145-155.
(c) Manufactures .....	(4,278.9)					Light, 147-152.
B. Total imports .....	26,548.5	100.0	43,737	100.0	164.7	
C. Balance .....	-1.6		+4,080			

<sup>1</sup> Thermal and electric power.

<sup>2</sup> Fuels and coke.

<sup>3</sup> Metallurgy.

<sup>4</sup> Lumber and woodworking.

<sup>5</sup> Construction materials.

Sources: See text.

Slightly more than 62 percent of the planned export growth is concentrated in machinery and chemicals, the priority industries in Romania's growth strategy. As expected, with Romania's increasing dependence on imported materials and fuels, planned exports in this sector grow very slowly.

In general, data on the share of Romanian production that is exported is unavailable. Production and exports are both given for some individual items. Occasionally the units are not comparable, or, when comparable, they are usually given as physical units. Here and there a general figure is given. For example, it was said that the ministry of light industry (textiles, clothing, glassware, shoes, and leathers) in 1973 was expected to export about 55 percent of the output of finished goods (a concept of output not reported in the statistical yearbook).<sup>41</sup> A more identifiable figure is the "over 20 percent" of total industrial output that was exported in 1974. At 21 percent, this would amount to about 110 billion lei, or 33.5 percent of an estimated 328 billion lei national income produced in 1974.<sup>42</sup> Unprocessed foods and other agricultural goods accounted for about 5 to 6 percent of exports in devisa lei, and may have been a larger percentage of exports in internal prices. If so, total exports in internal prices may be estimated at around 120 billion lei, or nearly 37 percent of national income produced.

<sup>41</sup> "Viata economica," 1973:9 (March 2), p. 18.

<sup>42</sup> Manescu, op. cit., p. 6. Calculations are based on data from AS-76, pp. 46-7.

It is surprising that planned total exports do not appear to increase as a percent of planned national income. The five-year plan proposals in the Eleventh Party Congress Directives said that, for the 1976-80 period, exports will be over one-third of the value of national income. It is assumed that reference is to national income produced, which is planned to reach 610 billion lei in 1980. If planned exports reach, say, 35 percent, exports in internal lei prices in 1980 will be approximately 214 billion lei. On the average, a value of products worth 4.5 internal lei will exchange for one devisa lei in foreign trade.

A division of the internal value of exports is impossible on the basis of available data. First, trade commodity classifications do not follow divisions of production by sectors of the economy and branches of industry. For example, machine building production includes consumer durables, which are exported as manufactured consumer goods. Second, even if production and export classifications were known and comparable, relative internal prices differ greatly from export prices in devisa lei. Generally, because of internal pricing policies, sometimes said to be set to encourage exports, a devisa leu of machinery exports will bear less than the national average internal value, probably in the neighborhood of one to four lei. One devisa leu of agricultural exports or manufactured consumer goods exports will normally have higher internal values, in some cases as high as ten lei or more.<sup>43</sup>

For these reasons, and because the trade data in Table 19 are in current prices, whereas the output data are in constant prices, direct comparisons cannot be made between planned export growth and planned output growth from 1975 to 1980. The only reasonably certain observation is that exports of the industrial materials group, with the possible exception of metallurgy, will grow more slowly than output. For all other product groups, a general assumption is that exports will increase at about the same rate or slightly faster than production increases.

There appears to be more definite shifts in imports away from more-processed goods towards less-processed materials. Table 20 shows the shares of domestically produced equipment in total equipment deliveries for annual investments. The domestic share rises from its low of 62.1 percent to a high of about 75 percent in 1975. It is unlikely to fall below this figure in 1976-80. No planned figure for 1976-80 has been encountered, but in 1967 a campaign was introduced with the theme "self-equipping" (*autoutilare*), and strict central controls have been introduced to avoid unnecessary machinery imports.

<sup>43</sup> For a further discussion of relations between internal and external Romanian prices and for example of price differences, see Jackson, *op. cit.*, pp. 120-4 and 131, fn. 12.

TABLE 20.—SHARE OF EQUIPMENT AND MACHINERY INVESTMENTS FROM DOMESTIC PRODUCTION

[In billion lei]

Year	1959 prices		Percent of domestic share	Year	1963 prices		Percent of domestic share
	Total	Domestic			Total	Domestic	
1950.....	2.03	1.03	50.8	1965.....	16.4	11.3	69.1
1955.....	4.31	3.21	74.5	1966.....	18.1	12.3	67.7
1959.....	NA	NA	80.7	1967.....	21.5	13.3	62.1
1960.....	8.9	6.8	77.1	1968.....	24.1	15.6	64.7
1961.....	11.8	8.2	68.9	1969.....	26.6	18.0	67.3
1962.....	13.4	9.0	67.4	1970.....	30.1	21.2	70.2
1963.....	14.1	9.3	66.0	1971.....	33.3	24.0	72.1
1964.....	15.9	11.5	72.4	1972.....	38.6	26.6	69.0
1965.....	17.6	12.6	71.3	1973.....	43.2	30.5	70.6
1951-55.....	18.9	12.6	66.4	1974.....	54.1	41.0	75.7
1956-60.....	29.3	23.3	79.4	1975.....	65.9	49.2	74.7
1961-65.....	72.9	50.6	69.4	1966-70.....	120.4	80.4	66.8
				1971-75.....	235.1	171.3	72.9

Sources: A.S. 71, p. 482 and A.S. 76, p. 278.

The Romanian steel industry, whose output is planned to rise from 10.3 million tons in 1975 to 17 to 18 million tons in 1980 and 25 to 27 million tons in 1990, is planned to supply 95 percent of rolled steel needs in 1980. Domestic coke production increased from 31 percent to 45 percent of consumption from 1970 to 1975, but plans for 1980 are not available. Compared to Bulgaria and Yugoslavia, Romania has neglected ferro-alloys in the past, but by 1980 new plants will be built to provide 60 percent of ferro-alloy needs and 80 percent of ferro-silicon needs. In nonferrous metals, nearly all needs for rolled aluminum and 80 percent of needs for rolled copper will be provided in domestic production. Domestic flax, hemp, leather, and synthetics will supply 73 percent of the raw materials of the textile industry in 1980, up from 53 percent in 1975, and 75 percent of the raw materials of the leather and footwear industries in 1980, up from 58 percent in 1975. Over 90 percent of cellulose needs are planned from domestic sources in 1980.<sup>44</sup>

In contrast, Romania is increasingly dependent on imported ferrous and nonferrous ores and concentrates, and other inorganic minerals. Domestic iron ore production leveled off in the 1970's, and, whereas steel output increased 7.9 percent per year from 1970 to 1975 (see Table 21), imported iron ore increased 1.16 percent per year. The percentage of iron ore consumption supplied by imports increased from 66.3 percent to 78 percent. Figures for bauxite and aluminum oxide imports are only available for the period 1970-73 when they increased over 21 percent per year. Aluminum output increased 15.1 percent per year during 1970-75 (see Table 21). Domestic chemical fertilizer output increased at an average annual rate of 13.7 percent in 1970-75, with much needed imports of potash increasing 25.2 percent per year.<sup>45</sup>

<sup>44</sup> Data are from the Eleventh Party Congress Directives, and "Revista economica" 1976:17 (30 April), pp. 17-18 and 1978:45 (12 November) p. 5.

<sup>45</sup> Import and production data are found in AS-76 and "Comertul exterior al Republicii Socialiste Romanie 1974." Bucharest, 1975.

TABLE 21.—ACHIEVED AND PLANNED OUTPUTS OF IMPORTANT ENERGY, FUELS, AND RAW MATERIALS

Item	Quantity			Annual average percent growth	
	1970	1975	Plan 1980	1971-75	1976-80 <sup>1</sup>
Electric energy (billion kilowatt-hours)...	35.1	53.7	75.0-78.3	8.9	7.4
Net coal (1,000 tons).....	20.5	27.1	53.0-56.6	5.7	15.1
Crude oil (1,000 tons).....	13.4	14.6	15.5	1.7	1.2
Natural gas (billion cubic meters).....	20.0	27.0	26.8	6.2	-----
Steel (million tons) <sup>2</sup> .....	6.5	9.5	16.6-17.3	7.9	12.3
Aluminum (1,000 tons).....	101.0	204.0	255-260	15.1	4.8
Chemical fertilizers (1,000 tons of 100 percent active substance) <sup>2</sup> .....	.9	1.7	4.05-4.14	13.7	19.2
Synthetic rubber (1,000 tons).....	61.0	99.0	290-318	10.2	26.0
Synthetic fibers and yarns (1,000 tons)...	77.0	159.0	310-348.7	15.6	16.0
Cellulose (1,000 tons).....	44.5	575.0	730-800	5.3	5.9

<sup>1</sup> Computed as midpoint of plan target.

<sup>2</sup> In late 1974, "Revista de statistica," 1974:10, pp. 32-46, gave the following targets: steel, 1975-10.3, 1980-17 to 18, 1990-25 to 27; chemical fertilizers, 1975-2.1, 1980-3.3 to 3.5, 1990-6.2.

Sources: "Scinteia," July 3, 1976, p. 2, and A.S.-76, pp. 112-113.

Romania is well-endowed with primary energy sources. Its earlier investments in these products, the present low levels of development, and strict rationing of energy for non-industrial purposes all contributed to its ability in 1974 to supply 86 percent of needs from domestic sources. This has been claimed as the highest ratio of self-sufficiency in Europe, and will remain high even in 1980 when domestic sources are expected to supply just 75 percent of needs. Primary energy sources include natural gas and crude oil, domestic production of which scarcely increased in 1971-75 (see Table 21). At the same time, imported crude oil more than doubled and the ratio of imports to consumption increased from 15.4 percent (1970) to 25.9 percent. Coking coal is also included in this category and the share of imports as compared to consumption increased from 35 to 55 percent from 1970 to 1975.<sup>46</sup>

Tables 22 and 23 provide a clear picture of Romania's overall energy sources and uses for the actual period, 1970 to 1975, and the planned period, 1975 to 1980, with some projections of electric power production through 1990.

<sup>46</sup> Ioan V. Herescu, "Cresterea economica si consumul de energie," "Revista economica" 1975:34, pp. 11-14 and sources to Table 22.

TABLE 22.—SOURCES AND USES OF PRIMARY ENERGY CONSUMED INTERNALLY<sup>1</sup>  
[In percent]

	1970	1975	1980
<b>Sources:</b>			
Coal, including bituminous shale.....	16.7	19.7	23.5
Petroleum.....	20.5	24.3	34.3
Natural gas.....	55.6	49.1	36.3
Hydroenergy.....	1.7	3.6	4.0
Wood and other inferior fuels.....	5.5	3.3	1.9
<b>Total.....</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
<b>Total primary energy sources (million tons conventional fuels).....</b>	<b>56.5</b>	<b>79.2</b>	<b>110.0</b>
<b>Users:</b>			
Metallurgy.....	NA	12.0	13.5
Mining.....	NA	3.3	2.6
Chemicals.....	NA	15.0	21.0
Machine building.....	NA	2.6	2.6
Wood and construction materials.....	NA	6.6	5.7
Light industry.....	NA	2.2	2.2
Thermoelectric power stations.....	23.3	24.5	24.1
Hydroelectric power used in hydroelectric stations.....	1.7	3.4	4.0
Other industry.....	NA	13.7	9.4
<b>Total industry.....</b>	<b>79.3</b>	<b>83.3</b>	<b>85.1</b>
Raw materials.....	(8.8)	(14.0)	(17.9)
Agriculture.....	3.7	3.4	2.9
Transportation and communications.....	6.1	4.3	3.9
Heating, houses, offices.....	11.0	9.0	8.1
<b>Total.....</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

<sup>1</sup> Includes energy materials used as raw materials by the chemical industry and coking coal in ferrous metallurgy.

Source: Ioan V. Herescu, "Dezvoltarea bazei energetice," (1) and (11), "Revista economica" 1976:28 and 29 (July 16 and 23), p. 1 and p. 2.

TABLE 23.—SOURCES AND USES OF ELECTRIC POWER

	1970	1975	1980	1985	1990
<b>A. Sources, total (million kWh).....</b>					
Imports.....	35,116	54,223	NA	NA	NA
Production.....	28	502	NA	NA	NA
	35,088	53,721	75,000-80,000	NA 130,000-14,0000	
Hydroelectric stations (percent).....	7.9	16.2	18.4	20.7	22.2
Nuclearelectric stations (percent).....				7.3	NA
Thermoelectric stations-coal (percent).....	27.9	27.8	44.0	57.6	NA
Thermoelectric stations-fuel oil (percent).....	3.0	4.2	33.0	8.7	NA
Thermoelectric stations-natural gas (percent).....	58.5	49.6			
Secondary energy sources (percent).....	NA	1.6	4.6	5.7	NA
<b>B. Uses (percent).....</b>					
Exports.....	100.0	100.0	NA	NA	NA
Distribution losses.....	6.9	5.5			
Consumption.....	9.4	7.5			
	83.7	87.0			
Industry.....	55.8	60.3			
Transportation and communications.....	1.4	2.0			
Construction.....	1.9	1.8			
Agriculture and forestry.....	2.0	3.7			
Municipal services.....	1.9	1.5			
Public lighting.....	1.0	4			
Household.....	6.4	6.9			
Power stations.....	9.4	8.1			

Source: Same as table 22 and AS-76, pp. 122-125.

As might be expected, coal sources of energy are increasing. Yet the share of petroleum increases even more, no doubt because of its inclusion as a raw material source for the rapidly expanding chemical industry. As seen in Table 23, the conversion from liquid and gas fuels to coal fuels really will not take place until after 1980. By 1985, Romania's first nuclear power plant will be commissioned. Hydroelectric power is planned to have reached 83 percent of economically manageable reserves by 1985 and 100 percent by 1987.

Romania's achievement of goals for energy, fuels, and raw materials will depend on the extent to which three critical tasks can be carried out by the economic organization: (1) Discovery and exploitation of marginal domestic resources; (2) continuance of a strict rationing program, including small shares for consumers, and an ambitious effort to increase fuel and material productivity in industry and other sectors; and (3) acquisition of the means to import rapidly growing quantities of fuels and materials.

Evaluation of the possibilities for carrying out the first task goes beyond the scope of this paper. In the case of the second task, the possibilities of achieving its immediate planned dimensions, which appear in Tables 24 and 25, may be discussed.

TABLE 24.—ENERGY TARGETS IN INDUSTRY, 1976-80

	Target reductions in consumption per unit of output (percentage)		Recovery of secondary energy (1,000 tons of conventional fuel)	
	Fuel	Electric power	1975	1980 plan <sup>1</sup>
Mining.....	23.0	1- 2.0	30	113
Metallurgy.....	14.0	10-11.0	2,186	5,000
Machine building.....	26.0	18-19.0	57	216
Chemicals.....	11.5	20-22.0	1,577	3,260
Wood and construction materials.....	13.0	5- 6.0	750	1,380
Light industry.....	14.8	13-14.0	26	70
Food industry.....	13.8	12.0	115	474
Power stations.....		7.5		430
Total <sup>1</sup> .....	20.0	<sup>2</sup> 12.0		

<sup>1</sup> Totals given Vasile Nitu et al., op. cit., p. 10.

<sup>2</sup> Approximate.

Source: See table 22.

TABLE 25.—COMPARATIVE REDUCTIONS IN CONSUMPTION NORMS

Consumption norm	Quantity			Percentage reduction	
	1970	1975	Plan 1980	1970-75	Plan 1975-80
1. Tons of conventional fuel per million lei of industrial output.....	161.0	84.4	66.4	47.6	28.3
2. Thousand kilowatt hours of electric power per million lei of industrial output.....	65.3	63.9	56.3	2.2	11.9
3. Tons of coke per ton of pig iron.....	.693	.605	.545	12.7	9.9
4. Tons of steel ingots per ton of finished rolled steel.....	1.345	1.301	1.190	3.3	8.5
5. Tons of rolled steel per million lei of output in machine building.....	28.2	18.7	13.8	33.7	26.2
6. Cubic meters of wooden mass per million lei output of woodworking.....	1,110.0	800.0	584.3	28.0	27.0
7. Tons of cotton per million lei output of cotton fabric.....	21.6	15.4	13.1	28.7	14.9

Source: Maxim Berghianu, "Cresterea gradului de utilizare si valorificarea a resurselor materiale, directie hotaritoare de sporire a eficientei economice," (1), "Revista economica" 1976:25 (June 25), p. 5.

In order to evaluate the possibilities of more productive uses of fuels and materials, it can be noted that the 1971-75 target for industry cost reductions of 11 to 12 percent was only 80 percent fulfilled (see Tables 1 and 2). Also during this period the "material expenditures" portion of gross industrial output fell from 61 percent (1970) to 58.9 (1975). The reduction for the whole economy was small, from 59.5 to 58.1 percent, although the five-year plan called for a reduction to 54.4 percent in 1975.<sup>47</sup> The 1976-80 plan calls for a cost decrease in industry of 8.5 to 9.5 percent, or about what was achieved in 1971-75. Material costs in industry are planned to fall somewhat less, by 7 percent. As a result of economies in all sectors, the proportion of "material expenses" in national income is planned to fall from 58.1 to 55 percent, somewhat more than the last five-year's achievements, but less than the last five-year plan.<sup>48</sup>

Yet another consideration is the growth of fuel electric power compared to the growth of industrial output and national income. Looking at Tables 22 and 23, it appears that electric power grows at 69 percent of industrial growth in both 1971-75 and 1976-80, but at a slightly decreasing percentage of the growth in national income, from 81 percent in 1971-75 to 70 percent in 1976-80. In the case of fuels there is the opposite tendency. That is, the percentage growth in fuels compared to growth in industry increases from 53 percent in 1971-75 to 64 percent in 1976-80. A slight increase takes place with respect to national income.

It does not appear that Romanian planners are asking for greater economies in fuels and energy in 1976-80 than were achieved in 1971-75. In this sense, one may consider the targets in the realm of the possible. Still, the question remains whether Romania may have already used up the more available economies in fuels and energy. The answer to this question would require presently unavailable comparative analysis and technical expertise.

### *E. Sources and Uses of Agricultural Products*

With about 38 percent of its labor force still in agriculture in 1975, Romania may chose to place significant reliance on agricultural production, a strategic development option that is attractive in the long run because of possible world food shortages. Long-range Romanian plans call for agriculture's share of the labor force to fall to about 27 percent in 1980 and to about 13 percent in 1990.

The latter figure approximates the share of agricultural labor in the United States in 1950 or in East Germany about 1970; this is another way of saying that Romanian agriculture in 1990 could play a large or a small role, depending on methods of organization; quantities of material inputs, and levels of labor skills that may be provided the agricultural sector. Romania appears to have sufficient water and land resources, which, if properly managed, even with projected population growth, could provide important export surpluses twenty years from now. However, the immediate future is a larger problem.

<sup>47</sup> Also, a target of 50 percent was set for 1990. Aurel Iancu, "Modele de crestere economica si de optimizarea a corelatiei dintre acumulare si consum," Bucharest, 1974, p. 30.

<sup>48</sup> "Era socialista," LVI:18 (September 1976), p. 11.

## 1. OUTPUT PERFORMANCE AND PLAN

The average increases in agricultural output for the five year periods, 1966-70 (compared to 1961-65), and 1971-75 (compared to 1966-70) were about the same in terms of either gross or net output. Gross output, the relevant measure of potential delivery increases for food supplies and exports, grew at an average rate of about 4.2 to 4.5 percent per year for the ten years from 1965 to 1975, a rate sufficiently above the population growth rate of about 1.1 percent during the same period to permit modest increases in domestic food supplies per capita and a growing export surplus in food products.<sup>49</sup>

According to Montias' calculations, Romania's export surplus in food products, which includes both unprocessed goods directly from agriculture and goods processed by the food industry, grew at an average rate of about 5 percent per year from 1966 to 1972, a period when export prices can be assumed to have been relatively stable.<sup>50</sup> In this case, one may assume that the real value of agriculture output exported directly or after processing grew somewhat less than 5 percent because of the increasing share of processed goods having higher prices in the export mix. As can be seen in Chart 2, the export surplus of food products grew rapidly in 1973, but decreased in 1974 and 1975. The value in 1975 represented a growth rate of about 5 percent per year over 1972, but since exports are in current prices and export prices of foods probably increased from 1972 to 1974, the real value of the export surplus in foods must have been less. Given the influences of changes both in export mix and in export prices, one may assume that from 1965 to 1975 the real value of the export surplus of food products due to agriculture increased at about 4.2 to 4.5 percent, the same as the increase in gross agricultural output.

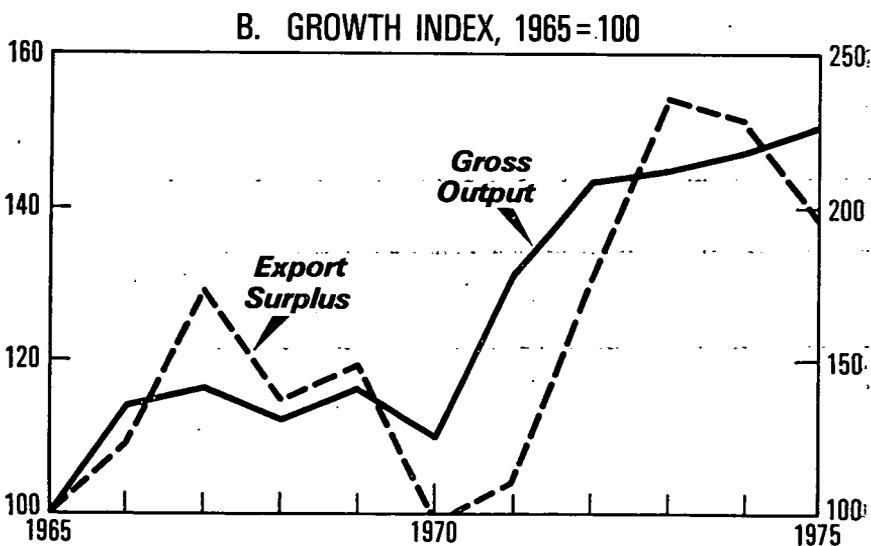
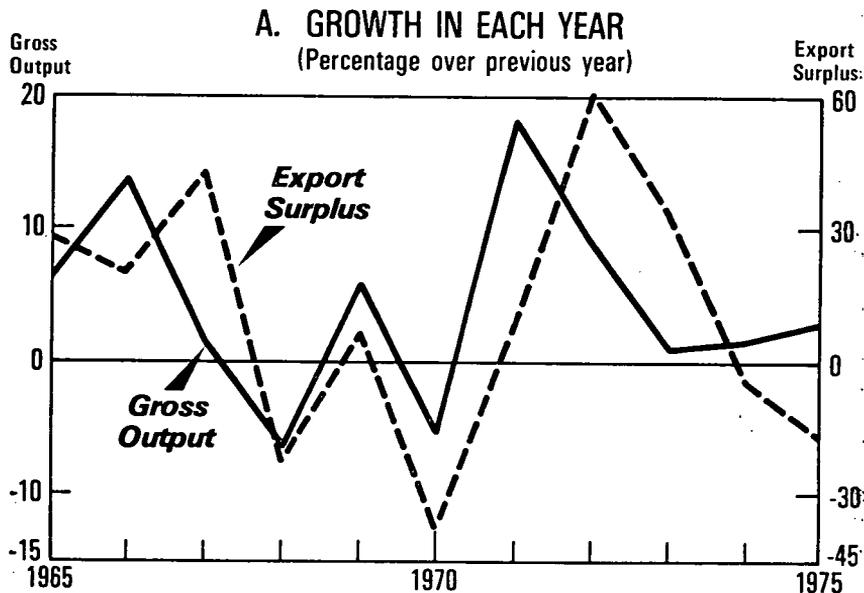
<sup>49</sup> Reported agricultural growth rates are sometimes reported as compound rates from one year to another and sometimes as the equivalent annual average growth derived from the average growth in one five-year period compared to the previous five-year period. The 4.2 percent is a compound rate from 1965 to 1975, as reported in AS-76, p. 46.

<sup>50</sup> Montias, "Romania's Foreign Trade Between East and West," *op. cit.*, p. 16.

Chart 2

# Growth of Gross Agricultural Output and Of Export Surplus in Food Products

(Gross output growth in constant prices;  
Export surplus growth in current prices)



Sources: Calculated from AS-71, pp. 107, 417-8, and AS-76, pp. 46 and 385 with corrections for reclassifications of export commodities in 1979.

Returning to the question of food supplies for domestic use, if gross agricultural output for domestic use increased 4.2 percent per year and population increased 1.1 percent per year, then gross output per person increased about 3.2 percent per year from 1965 to 1975. This growth may be compared to the reported growth rates for the same period of 5.5 percent for real income per capita, 5.8 percent for real incomes in money and kind per active peasant, and 3.7 percent for real wages.<sup>51</sup> Both real income concepts probably exaggerate the growth of real disposable incomes per capita because of the inclusion of state-provided social consumption; real wage growth understates real disposable income growth per capita because of tendencies toward increasing numbers of wage earners per family and toward shifts in the labor force from agriculture to industry where pay is higher. One may assume that real disposable incomes per capita (discounting social consumption) grew about 4.5 to 5 percent per year. Real gross agricultural output per capita available for domestic consumption appears to have grown about two-thirds as fast as real disposable incomes per capita from 1965 to 1975. The meaning of this estimate will be discussed later.

An overview of the realized and planned growth of agricultural output is presented in Table 26. The percentages of growth are those used in plans and in reports of plan fulfillment, i.e., the average growth of one period over the previous period. The growth target for 1976-80, as discussed earlier in Table 3, is an optimistic one that probably assumes favorable weather conditions and higher productivity of capital and labor inputs. Going beyond 1980, as projected in the Eleventh Party Congress Directives, planned agricultural output growth is much slower through 1990, having an implied annual average rate of increase of only 1.6 to 2.3 percent per year from 1980 to 1990. The structure of output appears almost fixed from 1970 to the plan year 1980, but the share of animal products planned for 1990 increases significantly. Given a population growth of around one percent per year and a total output growth of 1.6 to 2.3 percent per year from 1980 to 1990, the figures imply that vegetable output will grow less than population.<sup>52</sup> If Romania is to export food products, it appears to be planning to specialize in meat products; in fact, it may be planning to exchange meat for vegetable products in world markets.

	1980 structure	1990 structure	Growth in 10 yr	
			Amount	Percent
Vegetable.....	58.0	50.0	58.5- 62.5	0.1- 7.0
Animal.....	42.0	50.0	58.5- 62.5	39.3-48.9
Total.....	100.0	100.0	117.0-125.0	.....

<sup>51</sup> Real income per capita and real wages as reported in AS-76, p. 46. Real income per active peasant as calculated from plan reports cited above.

<sup>52</sup> The implied percentage growth of vegetable output for the ten-year period is only 0.1 to 7.0 percent, as seen in the following:

TABLE 26.—GROWTH AND STRUCTURE OF AGRICULTURAL OUTPUT

[Constant price basis]				
A. AVERAGE GROWTH OF PERIOD OVER PREVIOUS				
	1966-70	1971-75	Plan 1976-80	Plan 1986-90
	1961-65	1966-70	1971-75	1976-80
1. Gross output.....	24.1	25.4	28-44	17-25
(a) Vegetable products.....	21.8	20.6	NA	NA
(b) Animal products.....	26.5	33.5	NA	NA
2. Net output.....	14.1	37.0	NA	NA

B. STRUCTURE OF GROSS OUTPUT					
	1965	1970	1975	Plan 1980	Plan 1990
1. Total.....	100.0	100.0	100	100	100
(a) Vegetable products.....	63.2	58.8	57	58	50
(b) Animal products.....	36.8	41.2	43	42	50

Sources: AS-76, pp. 265-6, and AS-71, p. 463. Planned 1976-80—"Scinteia" 2-3, July 1976. Planned 1986-90—"Directives of the 11th Party Congress," p. 69. Structure—Ovidiu Popescu, "Cresterea eficientei cheltuielilor materiale in agricultura (I)," "Revista economica, 1976": (May 21), p. 12.

For the plan period 1976-80, gross agricultural output grows an implied 5.1 to 7.6 percent over 1971-75. However, population and incomes are not planned to grow faster than in 1971-75, and it is probably safe to assume that if supplies are available, Romanian planners will not permit deliveries for home consumption to increase faster than the 3.2 percent per year for 1965 to 1975.<sup>53</sup> Therefore, increased supplies of agricultural exports ought to be available if the plan is fulfilled. If output grows at the lower margin of the plan, or even slightly less, the export surplus of food products could still grow by about 5 percent as it did from 1965 to 1975.

## 2. THE GROWTH AND USE OF CAPITAL AND MATERIAL INPUTS

The ease with which Romania's agricultural output can be made to grow at the planned rates for 1976-80 and in the future will depend on how two major weaknesses of the past are overcome.

The first weakness is shown clearly in Chart 2 in the instability of gross output and export surplus of food products. Unfortunately, the last two five-year plans ended with the serious floods of 1970 and 1975, whereas drought has been common in other years. Romanian agriculture has not yet acquired the ability to avoid, or at least reduce, the historical instability of the country's climate.

The second weakness has already been touched upon in the discussion of Table 3 earlier. Increases in capital inputs have not seemed to adequately compensate for reductions in labor. Moreover, the share of "material expenses," which reflects depreciation, and material inputs from other sectors (such as fertilizers, as shown in Table 27), have increased significantly as a share of gross output. Increases show up for all forms of production organization. The low response of output to increased material inputs suggests problems of labor quality, incentives, and organization.

<sup>53</sup> One may argue that planners assume a declining income elasticity for food as income increases. Actual preferences of the Romanian population are difficult to estimate because the distribution of food stocks are influenced by queues and empty-shelves rationing, the extent of which has varied in time and space. It is certain that the average Romanian would like to have much larger supplies of food available, especially meat and fresh produce out of season.

TABLE 27.—SHARE OF MATERIAL EXPENDITURES IN GROSS AGRICULTURAL OUTPUT<sup>1</sup>

[Average percentage for 5 years]

	1966-70	1971-75	Plan 1976-80
In total output.....	43.0	47.3	45.4
In output of state farms.....	54.7	59.8	NA
In output of collective farms.....	44.4	50.3	NA

<sup>1</sup> Price basis unknown.

Source: Popescu, op. cit., p. 12.

Table 28 presents estimates of fixed capital in agriculture according to three categories of organization—state farms, machine-tractor stations, and a residual that includes collective farms and private agriculture. Fixed capital in agriculture increased an impressive 49 percent from 1965 to 1970, and 57 percent from 1970 to 1975. According to estimates for 1980 as presented in Table 3, fixed capital in agriculture will also increase 57 percent from 1975 to 1980. Past and planned increases in selected major inputs (Table 29) suggest that increases in tractors, fertilizer, and irrigated land are planned to continue at about the same rate as in 1971-75.

TABLE 28.—ESTIMATED VALUE OF FIXED CAPITAL IN AGRICULTURE

	1965	1970	1975
-Quantity (billion 1963 lei):			
Total.....	<sup>1</sup> 65-68	<sup>2</sup> 87.1	<sup>3</sup> 137.2
(a) State farms.....	15.7	27.1	38.9
(b) Machine-tractor stations.....	9.8	12.5	19.1
(c) Remainder.....	39.5-42.5	47.5	79.2
-Shares (percentage):			
Total.....	100.0	100.0	100.0
(a) State farms.....	23.6	31.1	28.4
(b) Machine-tractor stations.....	14.7	14.3	13.9
(c) Remainder.....	61.6	54.5	57.7

<sup>1</sup> Estimated from growth indices.<sup>2</sup> Estimated from agriculture's shares of given values of total fixed capital.

Source: "Anuarul statistic 1976," pp. 47, 56, 164 and 166-67.

TABLE 29.—PRINCIPAL CAPITAL AND MATERIAL INPUTS TO AGRICULTURE

Item	1970	1975	1980 (plan)
Tractors (1,000 units).....	107.3	119.5	(1)130
Hectares per tractor.....	91.0	81.0	76
Fertilizer delivered (1,000 tons of active substance).....	594.3	1,196.5	(1)3,030
Kilograms per hectare.....	57.0	114.0	280
Terrain prepared for irrigation (1,000 hectares).....	731.3	1,474.4	(1)3,050
Arable land (1,000 hectares).....	9,733	9,741.0	(2)9,846
Greenhouses (hectares).....	na	(3)1,146.0	(3)2,290

<sup>1</sup> Circa.

Sources: "Anuarul statistic" 1976, except for following items: (1) Ion Stanciu, "Revolutia tehnico-stiintifica in agricultura," "Revista economica," 1976:30 (July 30), p. 1. (2) "Revista economica," 1976:20 (May 21), p. 13. (3) "Scinteia," Dec. 30, 1975.

Even with the planned increases for 1980, Romanian inputs of tractors and fertilizers per hectare appear to remain below levels achieved by East European members of CMEA.<sup>54</sup> The main thrust

<sup>54</sup> Comparative data are presented in Gregor Lazarcik, "Agricultural Output and Productivity in Eastern Europe," in Joint Economic Committee, Congress of The United States, "Reorientation and Commercial Relations of The Economics of Eastern Europe" (Washington, 1974), pp. 375-377.

of planned agricultural investments in 1976–80 is directed toward efforts to reduce climatic influences on output. Before the 1975 summer floods, soil conservation, irrigation, drainage, and flood control were reported to be taking half of the investments in agriculture.<sup>55</sup> The floods prompted a reassessment of plans and, in 1976, an even more ambitious long-term water basin management plan was announced.<sup>56</sup> It may be that catching up in levels of fertilizer application and mechanization has been further delayed.<sup>57</sup>

#### *F. Summary of the Sources and Uses of Material Resources*

The ambitious character of Romania's plan for 1976–80 is reflected in several dimensions. The internal investment flow is to increase 92 percent over 1971–75 and, at the same time, large export surpluses are to be generated. There is an evident desire to restrict additional borrowing and equipment imports from the developed West. Additional credits to the less developed countries will be used to expand exports of Romanian equipment and technical assistance as part of long-term efforts to acquire greater proportions of raw material needs.

Romania's plan continues to emphasize the development of heavy industry, especially machine building and chemicals. Tied to this development is an effort to acquire greater self-sufficiency and export ability in equipment and in processed materials such as steel products. In spite of intentions to exploit margin domestic reserves of industrial raw materials and to squeeze industry with lower consumption norms, Romania's import dependency will grow in critical products, such as iron ore, coking coal, nonferrous metals, and crude oil. But, partly because of a low level of development, a high degree of self-sufficiency in primary energy will be maintained.

Even though agriculture's share of total investments will fall compared to 1971–75, the absolute flow of investments will be a large increase over 1971–75. In fact, by 1980 the investment share will about equal the share of agriculture in national income produced. However, relative levels of mechanization and fertilizer application (a current material input) will probably remain below levels in other CMEA countries. At least half of investments in agriculture will be used in irrigation, flood control, and land reclamation in an effort to better isolate agriculture from periodic droughts and floods. Given that these projects can only be executed slowly and have a long recoupment compared to mechanization, this strategy appears to have an element of short-term risk.<sup>58</sup> All things considered, Romanian agricultural output ought to grow at least at the same rate as in 1965–1975, and should still provide the country with the needed export surplus of food products. Looking beyond 1980, the plan suggests an intent to decrease agricultural growth to shift from vegetable products to animal products. If Romania has an export surplus in food products in the 1981–1990 decade, it will clearly be in animal products.

<sup>55</sup> Miles J. Lambert, "Romania Moves to Revamp Its Lagging Agriculture," *Foreign Agriculture*, XIII :34 (August 25, 1975), p. 12.

<sup>56</sup> "Scinteia," 16 April 1976, p. 2.

<sup>57</sup> The plowing, seeding, and harvesting of cereals and soya was reported to have been fully mechanized by 1976, but cultivating was only 80.9 percent mechanized on state farms and 63 percent mechanized on cooperatives. Mircea Bulgaru, "Optimizarea relatiilor industrie-agricultura si echilibrul economic-social," "Era socialiste," LVI:18 (September 1976), p. 12. Also, mechanization was planned to be completed for corn, sunflower, and fodder plants by 1977; for potatoes by 1978; and by 1980 for sugar beets, truck produce, vineyards, and livestock care. Stanciu, *op. cit.*, p. 2.

<sup>58</sup> A recoupment period of ten years has been given for investments in irrigation, soil drainage, and erosion control. "Revista economica," 1976:50 (December 17), p. 6.

## IV. SOURCES AND USES OF LABOR RESOURCES

During the period from 1950 to 1972, the ratio of working-age population to total population did not materially change. Although Romania's population growth rate has been second highest among the CMEA countries, the available labor force growth has been smaller because of decreasing participation in both age-group extremes, which has not been offset by increasing female participation in the middle age-group. Non-participation has taken the usual forms of retirement and school enrollment, but it also may be observed that the ratio of estimated civilian employment to the estimated active population decreased from 95 to 96 percent in the late 1950s to 93 percent in 1972. The decrease could be accounted for by both greater employment in military and security forces and apparent unemployment of younger persons not currently enrolled in school.<sup>59</sup>

Given a growing concern about possible labor shortages, the latter group has been of large enough size, apparently, to evoke a 1976 law "concerning the enrollment in useful labor of persons apt for work."<sup>60</sup>

No current participation data by sex or age group is available, but may be forthcoming from the 1977 census. In the last census year, 1966, female participation in the labor force was 48.1 percent and, among urban females, 37.0 percent. Both rates were relatively high by comparison with other countries and could be accounted for by extensive participation in agriculture, even of urban females. At the same time, in 1973 females were only 34.4 percent of state employees, the lowest rate among the Eastern European CMEA members. In 1975, Prime Minister Manescu indicated that two-thirds of the increased number of state employees in 1976-80 will be female. The proportion of females will then reach 40 percent.<sup>61</sup> Reaching the employment growth goals of the plan will require a significant movement of rural females out of agriculture and increased urban female participation in state employment.

## A. Agricultural Labor

Approximate calculations indicate that in 1970 the ratio of national income produced per occupied person in industry reached an all-time high of 5.9 times the income produced per occupied person in agriculture.<sup>62</sup> By 1975, the ratio fell to 4.9, as the number of persons occupied in agriculture fell by over one million and agricultural investments increased. Nearly another million persons are planned to leave agriculture by 1980. With further agricultural investments, the ratio will fall slightly; still, in 1980, national income per occupied person in industry will be over four times that in agriculture. Unlike Romanian industry, Romanian agricultural labor productivity has probably suffered from a lack of capital and incentives. It is also of significantly poorer quality. In 1975, there was only one-third the

<sup>59</sup> Except where otherwise noted, the data in this section draws on a forthcoming work, Marvin R. Jackson and Stephen H. Happel, "Population Structure," in K. D. Grothusen (ed.) "Südosteuropa Handbuch, Volume II," Rumänien, Göttingen, 1977.

<sup>60</sup> Discussions of the law were accompanied by numerous comments about neglectful parents and "parasitism" among youth. It provided for obligatory registration for persons from sixteen to pension age were not attending school, employed, housewives, or disabled. "Scinteia," 6 November 1976, pp. 5-6.

<sup>61</sup> Manescu, *op. cit.*, p. 8.

<sup>62</sup> Calculations are based on 1975 shares projected back by growth rates of national income produced in each sector. The shares were given in Table 6, above, and growth rates taken from AS-76, p. 53.

number of engineers and technicians per 1000 workers in agriculture as compared to industry.<sup>63</sup>

In agriculture, educated personnel tended to work on state farms and machine-tractor stations, where in 1968 one out of 34 employees had secondary education and one out of 25 had higher education. By contrast, on collective farms in 1969 only one out of 1067 had secondary education and one out of 492 had higher education.<sup>64</sup> In addition, the last available data on age structure, presented in Table 30, show that even in 1966, the labor force of collective farms, which is the major component of production, was much older than the national average. More recent reports suggest that nearly 60 percent of the Romanian agricultural labor force is over 45 years and that it is 60 to 70 percent female.<sup>65</sup>

TABLE 30.—AGE STRUCTURE OF THE OCCUPIED POPULATION IN INDUSTRY AND AGRICULTURE, MAR. 15, 1966

Age group	Industry	State farms	Machine-tractor stations	Collective farms
Total.....	100.0	100.0	100.0	100.0
14 to 19.....	6.7	9.4	21.3	8.8
20 to 24.....	13.2	11.3	17.5	8.2
25 to 29.....	17.5	16.0	18.2	10.7
30 to 39.....	31.3	31.9	30.5	23.4
Subtotal.....	68.7	68.6	87.5	51.1
40 to 49.....	17.8	16.2	8.6	18.5
50 to 54.....	6.9	6.1	2.0	9.6
55 to 59.....	4.6	4.9	1.3	9.1
60 and over.....	2.8	4.3	.6	11.7
Subtotal.....	31.3	31.4	12.5	48.9

Source: Constantin Grigorescu, "The Labour Force Quality and the Modernization of Agriculture," "Revue Roumaine des Sciences Sociales, Serie de Sciences Economiques," 15, 2, 1971, p. 199.

It would be argued correctly that Romania's poorly-educated, aging, female, and, because of the latter two factors, often part-time, agriculture labor force is effectively smaller than the reported numbers. This is the case with the collective farm labor force, shown in Table 31, but sufficient current data are lacking on age, sex, education, and work participation to make "quality" corrections. Data in Table 31 suggest why the labor force on collective farms is of poor quality. The number of families on collective farms has actually increased slightly since 1965, but the number of members (and workers) supplied per family has fallen possibly to less than one per family. Many members of collective farm families, usually males or younger persons, commute or temporarily migrate to industrial employment where they are attracted by higher incomes. This was shown as early as the census of 1966, which indicated significant nonagricultural employment of rural males. With higher incomes available to males and younger persons, it is not difficult to understand why the family member remaining for collective work is an aging female who works only part-time.

<sup>63</sup> Bulgaru, *op. cit.* p. 11.

<sup>64</sup> Constantin Grigorescu, "The Labour Force Quality and the Modernization of Agriculture," "Revue Roumaine des Sciences Sociales. Serie de Sciences Economiques," 15:2, 1971, p. 204.

<sup>65</sup> See Revista economica, 1976: 4, pp. 7-8, and Mircea Bulgaru, "L'agriculture et les problemes de la force de travail dans l'ensemble de l'economie nationale," "Revue roumaine des sciences sociales. Serie de sciences economiques." Vol. 18:1 (1974), p. 100.

TABLE 31.—THE AGRICULTURAL LABOR FORCE  
[1,000 persons or families]

	1965	1970	1971	1972	1973	1974	1975	Plan	
								1980	1990
Total agricultural employees.....	5,476.2	4,848.6	4,602.2	4,382.5	4,206.3	4,012.1	3,837.4	2,846	1,380
A. State employees.....	425.6	440.1	462.5	482.6	498.9	470.1	484.2	---	---
1. State farms.....	301.3	292.3	297.8	296.8	287.6	244.5	251.7	---	---
2. MTS.....	85.7	96.1	106.2	113.7	114.0	118.8	126.4	---	---
3. Other.....	38.6	51.7	58.5	72.0	97.3	106.8	106.1	---	---
B. Members of collectives and private farmers.....	5,040.6	4,408.5	4,139.7	3,899.9	3,707.4	3,542.0	3,353.2	---	---
1. Private farmers.....	542.1	489.7	---	---	---	---	---	---	---
2. Collective members.....	4,508.5	3,918.8	---	---	---	---	(2,700.0)	---	---
C. Collective families.....	3,409.1	3,454.2	3,455.0	3,452.5	3,442.7	3,436.8	NA	---	---
D. Collective farm workers per family.....	1.3	1.1	---	---	---	---	---	---	---

<sup>1</sup> Estimate from Bulgaru, op. cit. p. 15.

Sources: Collective families from A.S.-75, p. 182 (data not published in A.S.-76). Private farm members calculated from percentage of "nonsocialist" sector employment in A.S.-71, p. 125. (Data not published in A.S.-72 and after.) Plan data from table 6. All other from A.S.-76, pp. 66-69, 164, 166.

### *B. Labor Incentives in Agriculture*

Major changes in Romania's labor force have been caused by large income differentials in collective agriculture compared to other activities, especially employment in urban areas. Such income differentials not only resulted in large permanent movements out of agriculture and to the cities, especially on the part of the rural youths who used the advantages of educational opportunity, but also served to stimulate a large flow of migrant and commuter workers who have been willing to leave their families for long periods of time or to tolerate daily travels of several hours to gain the higher wages of industry.

The income differential between peasants and state employees has been estimated in Table 32. As line 6 shows, the differential grew rapidly after 1955 and reached a maximum in 1970. At that time, real incomes per "active" peasant were possibly less than half of the real wages of state employees. Comparisons are difficult because, as Table 31 suggests, significant numbers of peasant family members were earning wages as state employees. In addition, except for housing, rural areas offer lower levels of services, including those provided by the state as free or subsidized social consumption.

TABLE 32.—PER CAPITA REAL INCOMES AND WAGES

	1950	1955	1960	1965	1970	1975	1980 <sup>1</sup>
1. National income per capita:							
(a) Amount in lei (constant prices).....	2, 173	3, 933	5, 172	7, 692	10, 473	17, 035	26, 500
(b) Index.....	100	181	238	354	482	784	12, 196
2. Real income of the population per capita:							
(a) Amount in lei (constant prices).....	3, 000	4, 100	4, 800	6, 400	7, 900	11, 500	14, 300
(b) Index.....	100	137	161	214	263	366	455
3. Real income of the population per occupied person:							
(a) Amount in lei (constant prices).....	5, 850	7, 640	9, 350	12, 600	16, 200	23, 000	30, 600
(b) Index.....	100	131	160	215	277	393	523:
4. Real income in money and kind per "active" peasant.....	100	152	154	189	201	335	417
5. Real wages of state employees.....	100	125	185	226	271	324	389
6. Estimated maximum relative income of 4 to 5 (percent).....	64. 0	77. 7	52. 9	53. 1	47. 2	66. 2	68. 6

<sup>1</sup> 1980 based on plan data, using midpoints where plan targets are given as a range and assuming an occupied population, of 10,500,000 and a total population of 22,500,000.

Sources: "Anuarul statistic," 1976, except as follows: (1) Absolute values of "real income of the population" (see text for an explanation of this concept) are computed on the basis of statement "total real incomes of the entire population [grew] 46 percent or by 74,000,000,000 lei," which was reported in "Scinteia," Feb. 4, 1976, for the period from 1970-75. According to this, the absolute amount in 1970 would have been about 160,000,000,000 lei. This agrees with a comment in "Revista economica" that from 1966-75, "real income" increased "over 110,000,000,000 lei." Using the index of "total real income of the population" given in "Anuarul statistic," the absolute amounts of total real income are: 1950—49,000,000,000 lei; 1955—71,500,000,000 lei; 1960—89,200,000,000 lei; 1965—122,000,000,000 lei; 1970—159,800,000,000 lei; 1975—233,000,000,000 lei; and (planned) 1980—321,400,000,000 lei. (2) The calculation of the ratios of income per peasant to real wages of state employees, as explained in the text, is actually comparing two different concepts of income. Given this major weakness, the relatives are based on 2 observations that turned out to be consistent with each other and with movements in the 2 indexes. C. Grigorescu ("The Labour Force Quality and The Modernization of Agriculture," in "Revue roumaine des sciences sociales, serie de sciences economiques," 15:2 [1971], pp. 199-200) indicated that in 1970 incomes per worker in agriculture were 50 percent of industrial wages. At this time industrial wages were 94.4 percent of average wages of all state employees. In 1976, Mircea Bulgaru ("Optimizarea relatiei industrie-agricultura si echilibrul economic-social," in "Era socialista," LVI:18 (September, 1976), p. 18) stated that a worker in collective agriculture "in normal conditions" receives on the average 60 to 70 percent of the income of a worker in state industry or state farms.

Table 32 shows the results of a significant effort to overhaul the income system in collective agriculture from 1971 to 1975. It is equally clear that the present five-year plan does not allow for the continuance of such changes. Details of policy for 1976-80 are unclear from available sources and, in some aspects, somewhat contradictory.

In 1970, a decision was taken to base income in collective agriculture on the so-called "global accord," which in essence is either a form of share-cropping or piece-rate wages. By 1973, centrally-determined rates of payment has been established for all farm activities.<sup>66</sup> And, beginning in 1971, a system of guaranteed monthly incomes was made available for special categories of farm work. Table 33 shows the subsequent increased levels and extensions of "guaranteed" incomes to other activities, and compares them with average monthly money wages for workers on state farms. Besides different conditions for acquiring income, from 1971 on peasants were provided with opportunities for paid vacations, child and maternity benefits, sick leave, and more adequate pensions.

<sup>66</sup> Costache Sandu, "Repartitia productiei global a cooperativelor agricole de productie." Bucharest 1973, pp. 213-5.

TABLE 33.—GUARANTEED MONTHLY INCOMES FOR COLLECTIVE PEASANTS

	[lei per month]					
	1971	1972	1973	1974	1975	1976
For work in:						
1. Animal husbandry.....	400	800	1,200	1,300	NA	1,500
2. Vineyards and produce.....			900	1,000	NA	1,200
3. Fruit growing.....			800	1,000	NA	1,200
4. Irrigationists.....				1,300	NA	NA
5. General work <sup>1</sup> .....						
Compared to:						
6. Average state employees in agriculture.....	1,270	1,304	1,377	1,423	1,622	NA
7. Minimum wage for unqualified state employees.....	800	*1,000		1,000	*1,200	

<sup>1</sup> 35 lei per day for those working at least 200 days per year.

<sup>2</sup> September 1972.

<sup>3</sup> July 1975.

Sources: A.S. 1976, p. 76. "Revista de statistica," xxv:2 (February 1976), p. 23. "Scinteia," Dec. 11, 1975, p. 1.

On the face of it, share-cropping and piece-rate systems seem to contradict the idea of guaranteed minimum monthly incomes. Also, it is known that both guaranteed minimum incomes and other fringe benefits have been provided selectively, that is, only to the more prosperous collective farms. Even in these cases, special state credits sometimes have been necessary. By December 1975 a generalized system of wages for all collective peasants was decreed and was to serve as a basis for a new, permanent law to be passed in 1976.<sup>67</sup>

Finally, in developing new agricultural incentive systems, Romania has not neglected the important sector of production from private agriculture and from the personal gardens of collective peasants. In 1975, these sources provided, as examples, 12 percent of cereal output, over half of the potatoe output, 40 percent of produce, over half of fruit production, and over 40 percent of livestock herds.<sup>68</sup> During 1971-75, these activities were stimulated by policies of selective price increases and of reducing taxes on income earned from them. In 1976, these changes culminated in the abolition of the tax on income from private and personal garden agriculture, and its replacement by a final tax per hectare of land used for such purposes.<sup>69</sup>

### C. Urban Labor

Shortly after the 1966 census results were available, the Romanian government, without prior warning, outlawed the virtually free abortions that had been available. The birthrate rose abruptly. Since then, despite continuing pronatalist policies, which included renewed efforts in 1974 to restrict semilegal and illegal abortions, the birthrate has fallen, although not as far as the pre-1966 level. Pronatalism presents a conflict in labor policy between increasing urban female labor force participation today and obtaining a larger labor force in the future. It also conflicts with other aspects of economic policy.

Among the impediments to larger families in Romania, as in other socialist countries, is a shortage of urban housing. As far as is known,

<sup>67</sup> Scinteia, 21 December 1975, p. 4. Further discussion of the decree and the proposed law have not been encountered.

<sup>68</sup> No general output data by organizational units are currently published. Cited data are from individual product categories in "Annual Statistic 1976," pp. 196-243.

<sup>69</sup> "Revista de statistica," xxv:2 (February 1976), p. 23.

comparative data on housing stocks are unavailable, but Romanian investment in housing is a low percentage of total investments compared to other CMEA countries, which may indicate more difficult housing conditions.<sup>70</sup>

In addition, in 1972, Romania had only one retail outlet for every 317 persons compared to Hungary, Poland, and East Germany with, respectively, one outlet for every 160, 170, and 95 persons.<sup>71</sup> The data suggest the difficulty of shopping, another factor discouraging larger families, especially for working parents. Yet a third factor that may discourage larger families is the change in total family income resulting from a woman's work. This change may be approximated by the percentage of the minimum wage for unqualified labor (representing the woman's potential contribution) to the average wage (representing the man's contribution). In Romania, this ratio was 51 percent in 1965 and rose to 68 percent in 1974. Such wage leveling may have had the effect of increasing the labor participation of married women, thus discouraging larger families. The Romanian government has encouraged working mothers through a system of family allowances, paid maternity leaves, and kindergarten programs for children aged three to five years. But family allowances at present are modest. The flow of payments for a first child, until the child reaches sixteen years, are only slightly more than one year's average wages.<sup>72</sup>

Another important influence on labor participation, especially among urban persons, is education policy. In 1966, the percentage of the economically active population attaining higher education was 2.0, and the percentage of those attaining secondary-vocational education was 13.2. In Poland the same attainment rates were 3.0 and 18.8 percent, and in Hungary they were 4.5 and 48.4 percent.<sup>73</sup> Since 1966, Romania has followed policies of restricted entrance into higher education. Educational programs at lower levels have been expanded, but with the emphasis reduced on general education and that on specialized, vocational-technical education increased. Current policy gives particular emphasis to combining work and education. Table 34 probably reflects Romania's educational policies in 1970, but the data, especially the changes from 1970 to 1974, also may be influenced by organizational policies.

#### *D. Summary*

Barring the availability of more detailed data, the characteristics of Romania's potential labor force are what one might expect in a country with such rapid industrialization. The point of this review is to suggest that Romania's reserves of labor for continued extensive development may be less than the numbers indicate. In the future, significant movement out of agriculture will occur by natural attrition. Pronatalist policies may slow the growth of female labor participation

<sup>70</sup> United Nations, Economic Commission for Europe, "Annual Bulletin of Housing and Building Statistics for Europe," Volume XIX, 1975. New York, 1976, p. 13.

<sup>71</sup> N. Lisandru, "Modernizarea si dezvoltarea comerțului interior," "Probleme economice," xxvi:1 (January 1973), p. 72.

<sup>72</sup> For calculations, see Jackson and Happel, *op. cit.*

<sup>73</sup> Romanian data are from Vladimir Trebiel, "Populatia Romaniei si cresterea economica," Bucharest, 1971, p. 209. Polish and Hungarian are from Marjory E. Searing, "Education and Economic Growth—The Post War Experience in Hungary and Poland," in Joint Economic Committee, Congress of the United States, "Reorientation and Commercial Relations of The Economies of Eastern Europe." Washington, 1974, pp. 512-3.

in urban areas, although the effects of those policies tend to be offset by income leveling and by the relative scarcity of housing and urban services. Finally, at present, policies restricting higher educational enrollment and encouraging vocational-technical training combined with work, may require much greater investments in higher education, with a consequent reduction in the numbers available for work, as Romania continues the transition to more intensive development. These possibilities are all the more real because of increasingly frequent reports of labor scarcity in some regions, industries, and skill categories.

The possibility of growing labor scarcity is an interesting preface to the planned transition to a shorter work week called for in the Eleventh Party Congress Directives in 1974. In February 1976 Ceausescu announced that "debate" would begin on the proposed reduction, and that an immediate transition would begin by eliminating "unjust" supplementary hours and Sunday work.<sup>74</sup> The law, as described in the plan for 1976-80 and published in July 1976, called for a work week of 42 to 44 hours by 1980.<sup>75</sup>

Finally, in November 1976 it was decided that during 1977 the country would begin the transition from a 48-hour work week to a 44-hour work week, with the transition generalized by 1982.<sup>76</sup> Final measures were to be approved in a National Party Conference scheduled this year. In the meantime, as noted earlier, the transition was delayed one more year in order to recoup losses from the earthquake in March.

It may be that delays in the transition, aside from the earthquake, arose over a concern with labor supplies. Evidence to support this arises from two laws passed at the same time as the transition was announced. One law, already discussed, called for obligatory registration for labor service. The other law established a new system of labor recruitment. This law requires that each district must recruit from within itself, and can go outside for labor only with central approval. Other details of the law are presently unavailable.<sup>77</sup> In all probability, the transition to a shorter work week will prove to be a low priority objective, contingent upon fulfillment of planned growth in the labor force.

## V. CONCLUSION

Remobilization turned the Romanian economy from uncertain growth in 1966-70 to more rapid growth experienced through 1976. The growth process from 1971 to 1976 was predominantly extensive, that is, the result of increased inputs more than increased productivity. Mobilization pressure evoked higher growth of capital investment at a time of lesser reliance on borrowed foreign resources. Labor transfers from agriculture stepped up and, with effort to maintain or even increase urban participation rates, provided a rapidly increasing industrial labor force.

The high growth rate of productivity in national income produced was, itself, more the result of extensive than intensive processes because transfers of labor from agriculture to industry brought

<sup>74</sup> Scintela, 5 February 1976, p. 3.

<sup>75</sup> Scintela, 3 July 1976.

<sup>76</sup> Scintela, 6 November 1976, p. 1.

<sup>77</sup> A discussion of both laws is found in "Scintela," 6 November 1976. It might be suggested that the recruitment law may have the unintended effect of reducing labor mobility and, therefore, increasing the frequency of regional labor shortages.

immediate increases in output per worker of four to five times. More accurate indicators of mobilization influences on productivity are seen taking industry and agriculture separately. In both sectors, productivity growth fell below planned levels. Romanian industrial management may have had problems absorbing so many new workers and facilities, especially given the more sophisticated technologies in the dominant machine building and chemical sectors. In agriculture, droughts and floods were a problem. But performance after the initial recovery from the 1970 floods must have been a disappointment in the face of changed incentives and a spectacular rise in peasant incomes.

The plan for 1976-80 envisages a similar growth process as in 1971-75, i.e., primarily extensive growth. But the margin of plan fulfillment to be provided by productivity growth is larger in both industry and agriculture. An important shift of strategy is apparent in agriculture as evidenced by less reliance on increases in peasant incentives, although peasants clearly have greater income possibilities than at any time since collectivization. The new strategy aims at reducing climatic influences through investment in an ambitious program in irrigation, flood control, land reclamation, and related projects. The effort is plainly needed and ought to have positive long-term benefits of more reliable crops. But, in the short term, investments will be diverted from further mechanization needed to raise the very low productivity of agricultural labor.

All signs indicate a rapid exhaustion of easily obtainable extensive growth opportunities in Romania after 1980. Reserves of labor in agriculture are smaller than a simple count of occupied persons would indicate. The 60 percent of the agricultural labor force that is over forty to forty-five years old is probably not available to industry and will provide agriculture with labor of diminishing productivity. How much and how quickly urban female participation rates can be raised is a big question. Also, present effort to reduce apparent unemployment of youths will provide, at most, a one-time increase. Working against increased labor force participation is the need for Romania to expand education in preparation for a greater future reliance on labor skills than on crude labor. The supply of labor will be reduced if delayed plans for a shorter workweek are carried out.

One suspects this objective has low priority, but, at the same time, may give a healthy boost to labor productivity. Since 1975, increasingly frequent reports of labor shortages have appeared in Romania sources. Possibly they indicate inefficient labor allocation rather than aggregate labor scarcity. If so, an improved allocation system, the objective of new labor laws in late 1976, may be a source of other labor reserves, but, again, on a one-time basis only.

The state of foreign trade provides further evidence of the change from extensive to intensive growth. Romania already has an import deficit in the combined categories of industrial raw materials and food products. The 1976-80 plan includes methods to control the growth rate of this deficit by reducing use norms in industry, exploiting marginal domestic reserves, and exporting agricultural output. All three measures may be considered among the more uncertain aspects of the plan, although within the range of achievements in 1971-75. The most important method planned as compensation for

the deficits that do occur is the effort to shift trade to the less developed countries with whom Romania hopes to trade heavy industrial products and engineering services for raw materials. Romania also had success in expanding exports of manufactured consumer goods, but may face restrictions on supplies of exports because of the relative low growth priority of light industry. Romania probably needs an assist in this area from world economic recovery. Under depression conditions and given weaknesses of Romania's marketing system, available foreign markets seem increasingly restrictive.

Beyond 1980, Romania's planned agricultural growth appears insufficient for this sector to provide growing export surpluses. By then industry will necessarily have to be the major source of exports. With exports one-third or more of domestic production, Romania's growth rate will be greatly influenced by her success in producing and marketing manufactured goods.

In the 1960's Romania increased economic independence by a shift of trade from CMEA to the West through which her economy acquired additional stimulation from credits and improved terms of trade. Maintenance of economic independence in the 1970's has been more inward oriented through mobilization pressure to provide resources for extensive growth and to reduce reliance on Western credits, and possibly even Western markets. Romania's new outward orientation is towards the third world which, in present conditions, offer few fears of dependent trade relations. Opportunities to redirect commodity imports originating in LDC's, by purchasing them directly rather than through Western intermediaries, facilitated the recent rapid expansion of Romania's LDC trade share. But, among other possible additional costs of this strategy, Romania probably has provided credits to the LDC's, which further increase pressure on domestic supply and the need for mobilization.

Romania in the 1980's will be forced to grow intensively. The economy already faces signs of increasingly tight supplies of domestic labor and need to export more competitive manufactured products. The essentials of successful intensive growth are productivity growth, widely distributed technological change, and high quality products. It is an axiom among western specialists of centrally-planned economies that, although the system works well to generate growth under the kinds of conditions faced by Romania up to the present, it has not done as well under conditions that Romania will confront after 1980. Romania's special ingredient has been the combination of central planning with mobilization pressure. Use of mobilization was facilitated by a population willing to accept the leadership's identification with national independence. Romania's future goal is an economic structure and an economic system, generally speaking, like those of East Germany or even Czechoslovakia today. With similar structures and systems, one may expect similar challenges or problems. Will Romania's unusual ability to mobilize provide an ingredient unavailable heretofore in more advanced centrally-planned economies? One can only wait to see what happens then.

# THE YUGOSLAV ECONOMY IN THE 1970's: A SURVEY OF RECENT DEVELOPMENTS AND FUTURE PROSPECTS

BY LAURA D'ANDREA TYSON\*

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A survey of recent economic developments in Yugoslavia may seem misplaced in a volume of papers dealing with Eastern Europe. Neither the economic nor the political system of Yugoslavia fits the models which usually come to mind when analyzing the countries of this area. Yugoslavia remains alone as a "socialist non-aligned nation" separate from the political, economic and defense ties linking Eastern Europe with the Soviet Union on the one hand and from similar ties linking the nations of Western Europe on the other. Nonetheless, it seems useful to examine Yugoslavia within the Eastern European context because the Yugoslav system has grown out of Eastern European roots, and, consequently, represents a possible path for further socialist transformation within the Soviet bloc in the future.

Because of its unique experiment with a kind of "market socialism" and workers' self-management, the Yugoslav economy has received much attention from western scholars in recent years. Therefore, so as

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not to be repetitive, this survey tries to build on existing studies of Yugoslavia, such as the one recently completed at the International Bank for Reconstruction and Development,<sup>1</sup> by surveying important economic, and, to a lesser extent, political developments during the 1970-76 period and by identifying future problems and prospects. In addition, an attempt will be made to relate economic goals and problems to the specific economic and political system within which economic decisions and policies are formulated. This approach reflects a methodological conviction that economic changes can be understood only by examining the particular economic and political environment which influences both the kinds of economic problems which arise and the policies available for their solution.

The paper begins with an introduction to several important features of the Yugoslav economic and political setting and then moves on to analyze the performance of the Yugoslav economy. Section I looks at the roles which the level of economic development, regional development disparities, the political system and ideology play in shaping economic problems and their solutions. In Section II, the economic system, as it has been transformed by recent constitutional changes and as it currently functions, is described in greater detail. Section III analyzes economic growth and efficiency over the 1970-76 period and contrasts actual accomplishments with the projections embodied in the 1971-75 Social Plan. Sections IV and V examine regional growth and performance and agricultural growth and performance respectively. As might be expected, problems in these areas are interrelated because of the importance of agriculture to the economies of the less developed regions. Section VI returns to the issue of aggregate economic performance and focuses on the problem of persistent inflation and on the recurrent attempts of the Yugoslav authorities to combat it. A number of hypotheses about the causes of the Yugoslav inflation are contrasted, and the effectiveness of recent policy responses is studied. Finally, in Section VII, Yugoslav foreign trade problems and policies are discussed. The paper concludes with an overall assessment of basic economic and social accomplishments during the past six years.

## I. THE ECONOMIC AND POLITICAL ENVIRONMENT

Perhaps the single most important feature of Yugoslavia's economic environment is its level of economic development. According to traditional development indicators, such as the level of gross domestic income per capita, the distribution of the working population among industry, agriculture and services, and the provision of the population with certain types of services and durable goods, Yugoslavia ranks as a developing economy, along with such countries as Greece, Turkey, Spain, Portugal, Hungary and Romania.<sup>2</sup> The still untapped development potential associated with this position has definite implications for economic policies and goals. Most significantly, the relatively low level of development necessitates a continued priority for rapid growth and structural transformation and a resultant need for a high savings effort and for careful co-ordination

<sup>1</sup> International Bank for Reconstruction and Development, "Yugoslavia: Development with Decentralization" (Baltimore: Johns Hopkins University Press, 1975).

<sup>2</sup> See footnote 2 on p. 943.

of investment. Growth priorities in turn shape policies designed to achieve other economic goals, such as price stability or balance of payments equilibrium. For example, Yugoslav policy-makers have struggled to find ways to reduce inflationary pressures without sacrificing real economic growth and to relieve a balance of trade deficit without reducing the growing flow of intermediate and capital imports required by increases in domestic production. As these examples indicate, Yugoslavia's development potential has established rapid growth as the major economic goal and has restricted policy options in other areas.

A second factor influencing both economic goals and acceptable policies is the existence of marked regional disparities in the level of economic development. Because of their diverse political and economic histories, the six republics and two autonomous provinces<sup>3</sup> which make up the Yugoslav state differ widely in their economic situations, as the data in Table 1 reveal. The existence of regional development gaps presents a problem in many developing countries, but the problem is particularly severe in Yugoslavia, both because of the extent of such gaps and because of underlying ethnic or nationality conflicts among the different regions. These conflicts magnify the significance of a resolution to the regional development problems while simultaneously rendering the formulation of acceptable policies to achieve such a resolution very difficult. In fact, it has been argued that disagreement over a workable regional development strategy

TABLE 1.—REGIONAL DEVELOPMENT INDICATORS

	Bosnia-Herzegovina	Croatia	Macedonia	Montenegro	Serbia <sup>1</sup>	Slovenia	Kosovo	Vojvodina
Per capital material product in 1975; Yugoslav average=100 <sup>2</sup> .....	66.1	122.7	67.7	69.6	97.8	202.2	33.0	115.0
Natural increase in population per 1,000 persons; 1975 <sup>3</sup> .....	13.1	4.4	15.1	12.7	6.8	7.4	27.6	3.3
Share of agricultural population in total population, 1971 <sup>4</sup> .....	39.9	32.3	39.9	35.0	44.1	20.4	51.5	39.0

<sup>1</sup> Serbia excluding Kosovo and Vojvodina.

<sup>2</sup> Figures calculated from data contained in tables 202-2 and 204-1 in Statisticki Godisnjak, 1976.

<sup>3</sup> Figures from Indeks, August 1976, p. 12.

<sup>4</sup> Figures from table 202-4, Statisticki Godisnjak, 1976.

<sup>2</sup> Yugoslavia's similarity to the economies listed here is suggested by the following statistics:

	Greece	Portugal	Spain	Turkey	Yugoslavia	Hungary	Romania
1973 GDP per capita.....	\$1,790	\$1,250	\$1,750	\$540	<sup>1</sup> \$792	-----	-----
Employment 1973:							
Percent agriculture.....	34.1	28.8	26.5	63.4	49.5	22.0	46.6
Percent industry and services.....	65.9	71.2	73.5	36.6	50.5	77.8	53.4
Cars per 1,000 persons.....	30	72	81	4	42	-----	-----
Doctors per 1,000 persons.....	1.67	.98	1.39	.45	1.06	-----	-----

<sup>1</sup> 1972.

Sources: For Yugoslavia, Greece, Portugal, Spain and Turkey, OECD, Yugoslavia (Annual Survey), 1975; Appendix on International Comparisons. For Hungary and Romania, Central Intelligence Agency, Handbook of Economic Statistics, tables 32 and 35.

<sup>3</sup> The six republics are Bosnia-Herzegovina, Croatia, Macedonia, Montenegro, Serbia and Slovenia. The two autonomous provinces are Kosovo and Vojvodina.

have sometimes caused major structural changes in the entire Yugoslav economic system.<sup>4</sup>

The "nationalities" problem, as it is sometimes called, has important implications for economic policy-making in other areas as well. Under the new Constitution and related laws, both the state and party organizations are built along republican lines, and federal government action must be approved by the competent republican leaders. Consequently, federal economic policies are frequently compromises among conflicting republican interests. Because such compromises are time-consuming to achieve, substantial lags in policy formation and implementation sometimes seriously interfere with policy-making effectiveness. For example, countercyclical federal expenditure and taxation policy to maintain macroeconomic balance is difficult to formulate. As another example, the Yugoslav monetary authorities have had persistent difficulty in sterilizing unexpected increases in the money base caused by unexpected balance of payments surpluses, because they have been unable to reduce their rediscount commitments which have a major impact on credit availability in different republican credit markets.<sup>5</sup>

A final factor shaping economic priorities and policies is the commitment of the Yugoslav leaders to certain ideological goals, among them socialism and the principle of self-management. The commitment to socialism has meant limitations on the degree of income inequality and on the types of ownership rights acceptable to policy-makers. These limitations in turn have restricted policy options. For example, solutions to the problems of interenterprise and interrepublican capital mobility have been hindered by ideological barriers to equity ownership. Deprived of this option, the Yugoslavs have adopted a number of laws to induce enterprises to invest in extra-enterprise projects and to induce banks to extend loans across republican boundaries. So far, these efforts have not been completely successful, and the immobility of capital remains a major hindrance to efficient economic growth.<sup>6</sup> In other planned economies which share Yugoslavia's aversion to equity ownership, the desired distribution of capital can be achieved, at least in principle, by the state planning and financial apparatus. However, this option is also unavailable to the Yugoslavs because of their commitment to self-management which is interpreted to be inconsistent with state control over the allocation of enterprise profits and investment funds.

As the examples provided in this section suggest, several distinctive features of the political and economic environment in Yugoslavia play an important role in determining its economic goals and problems and in dictating feasible policy solutions. To understand how these policy solutions are arrived at and how they are implemented to achieve their desired effects, it is now necessary to look in greater detail at the information, motivation and decision-making structures which define the unique Yugoslav economic system.<sup>7</sup>

<sup>4</sup> This argument is used to explain the 1961 and 1965 economic reforms by Deborah Milenkovitch in her book "Plan and Market in Yugoslav Economic Thought" (New Haven: Yale University Press, 1971), pp. 167-186.

<sup>5</sup> For a more detailed discussion of this problem in monetary policy implementation, see Section VI of this survey and OECD, Yugoslavia, 1974.

<sup>6</sup> The problem of capital immobility in Yugoslavia is discussed in greater detail in Section III of this survey and in the IBRD volume, Yugoslavia, op. cit., pp. 229-233.

<sup>7</sup> The division of an economic system into its information, motivation and decision-making structures is suggested in an approach to the study of economic systems derived by Egon Neuberger and William Duffy. Their approach is fully described in their book "Comparative Economic Systems: A Decision-Making Approach" (Boston: Allyn and Bacon, Inc., 1976.)

## II. THE ECONOMIC SYSTEM

Since the major economic reforms of the early and mid-sixties the Yugoslav economy has functioned as an imperfect market system, based on the principles of social ownership of the means of production and workers' self-management in enterprise decision-making. Within this system the role of the government at the federal, republican, and communal levels has been mainly limited to selective, ad hoc interventions in monetary policy, investment policy, price policy and foreign trade policy. Such interventions have been designed to change the parameters which influence the actions and decisions of enterprises and households on the market rather than to directly change the actions and decisions themselves. As distinguished from indirect interventions of this type, direct controls over economic activity have been concentrated in three main areas: government financing of investment projects and priority sectors, an important part of which reflects continued efforts to achieve regional development goals; government regulation of economic activity in the private sector; and government regulation of the use of foreign exchange.

Temporary or short-term economic policy measures, be they direct or indirect, have been guided and co-ordinated by a series of long-term development plans, the most recent of which covers the 1976-80 period. In practice, because the government has lacked the tools required for ensuring the realization of plan targets, plans have tended to be more statements of government goals than blueprints for action. In this sense the Yugoslav plans appear to fall into the category of "indicative" plans which provide information about projected economic developments to individual actors who then incorporate this information into their decision-making process. Plans of this type act to guide rather than to constrain economic decisions in the marketplace, and it seems fair to conclude that this has been the function of Yugoslav plans in recent years. Efforts to directly implement plan targets have been limited to the use of selective monetary policy, government subsidies, and government investment funds to encourage priority sector development. Since government funds financed about 17% of total fixed investment expenditures between 1970 and 1975, their use undoubtedly influenced the extent to which individual plan targets were realized.

The market and planning system described here underwent significant, although not fundamental, changes during the 1971-75 period. These changes, embodied in the 1971 constitutional amendments and broadened in the 1974 Constitution and subsequent laws, influenced the actual distribution of decision-making power among different government authorities, between the government and enterprises, and within enterprises themselves. The types of changes either actually adopted or planned for the future were shaped by the political and economic circumstances which gave rise to them.

Between 1970 and 1971, the continuing "republicanization" of both government organizations and the League of Communists threatened to paralyze effective economic policy-making at the federal level. In response to this threat, President Tito, with the support of party leaders, began a two-pronged offensive to restore central control. First, in 1971, a series of 21 amendments to the 1963 Constitution were introduced which, in effect, partially dismantled federal decision-making organizations and formally recon-

stituted them as instruments of the republics, composed of republican representatives on a parity basis.<sup>8</sup> These amendments were designed to establish a definite institutional framework within which inter-republican consensus could be reached on crucial aspects of federal economic policy. Second, the League of Communists, again under Tito's direction, began to rebuild an effective political center by removing republican party leaders who appeared to foster divisive republican rivalries and by exercising more influence over all constituent republican party organizations. These two actions strengthened central party control in the economy, while simultaneously widening the economic responsibilities of the republican governments and narrowing those of the Federal Government.

The political pressures motivating the institutional reforms were reinforced by economic pressures. The early 1970's witnessed a growing disenchantment with excessive dependence on market forces and a growing realization of the need for greater coordination of investment decisions. Disenchantment with the market stemmed from worries about the apparent increase in economic inequality both among republics and among individuals within each republic and from concern over the perceived concentration of economic power in the hands of financial institutions, the managerial elite, and wholesale, retail and foreign trade enterprises.<sup>9</sup> These developments, which were attributed to the growing domain of the market, came into direct conflict with the ideological goals of socialism. Concern over the government's inability to coordinate investment, with consequent duplications and inefficiencies in the use of scarce investment resources, added to skepticism about the market. Gradually, some economic and political leaders became convinced that the "indefensible theory" that the market would solve all economic problems was the cause of economic difficulty.<sup>10</sup> The policy prescriptions warranted by this view were clear: a general strengthening of the planning system and an increase in the number and variety of selective economic interventions. As shall be seen below, these policy prescriptions were followed during the 1971-75 period.

### 1. *Changes in the Decision-Making Structure*

The political and economic pressures encouraging changes in the economic system led to actual changes which modified the decision-making, information and motivation structures. In the decision-making structure, changes occurred at both the government and enterprise level. The major modifications in government decision-making were a marked transfer of authority from the federation to the individual republics and autonomous provinces and a re-organization of the procedure for the exercise of federal authority. As a result of these modifications, federation responsibilities were limited to

<sup>8</sup> A. Ross Johnson, "Yugoslavia: In the Twilight of Tito" (Washington, D.C.: Center for Strategic and International Studies, Georgetown University, 1974), p. 13.

<sup>9</sup> Evidence reflecting concern over the growing concentration of economic power is reported by A. Ross Johnson in "Yugoslavia: In the Twilight of Tito", op. cit., pp. 20-21 and by D. Milenkovitch in "Plan and Market: The Case of Yugoslavia," a draft paper presented at the annual meetings of the American Economic Association in September, 1976, p. 3.

<sup>10</sup> These are the words of D. Vojnić, President of the Federal Executive Council in 1973, as reported in *Nin*, November 11, 1973, pp. 15-16 and as translated in ABSEES (Abstracts of Soviet and East European Studies), January, 1974.

national defense, internal security, protection of self-management and the socialist system, economic relations with foreign countries, foreign affairs, and regulation of a special fund for financing development in the less-developed regions. The federation also retained executive and coordinating functions for monetary and foreign exchange policies, certain tax and expenditures policies, the development of social plans, and price controls for selected goods and services. Federation functions were further distinguished according to whether they could be exercised independently of the republics and provinces or whether they required prior consultation with them. The former group included defense, internal security, foreign affairs, and economic relations with foreign countries, while the latter included monetary policy, foreign trade and exchange policies, price controls, policies to aid the less developed areas, the rates of certain turnover taxes, the social plan and the size of the federal budget.<sup>11</sup> In cases where prior consultation with republics and provinces was required, definite consultative procedures were established and allowance was made for the possibility of emergency measures should the republics and provinces fail to reach agreement.

Besides restructuring federation powers, constitutional changes reconstituted both the legislative and executive organizations of the federal government so that they reflected the principle of parity representation of the republics and autonomous provinces.<sup>12</sup> This principle guaranteed, as far as possible, that federal actions would represent compromise policies acceptable to republican and provincial leaders alike.

Another important change in the decision-making structure outside the enterprise was introduced in the form of so-called self-management agreements and social compacts. Under this system, social compacts on questions of economic policy were concluded between the competent government authorities, the trade unions, and enterprises, and subsequent or related self-management agreements were concluded among enterprises in the same industrial branch or between individual economic actors, such as interested buyers and sellers in a given type of economic transaction. Self-management agreements were binding on the actors who entered into them, but participation was usually not compulsory. However, the competent government body could require specific actors to conclude a self-management agreement if voluntary negotiations failed to develop. Once an agreement was formulated, whether voluntarily or as a consequence of government intervention, the economic actors involved were subject to various sanctions and monetary fines for failure to comply with its terms.

During the 1971-75 period, social agreements and self-management agreements were instrumental in the design and implementation of the incomes and price control policies discussed in Section VI. Agreements in these areas substituted for the direct co-ordination of economic policy by government or party organizations. Because they allowed

<sup>11</sup> D. Milenkovitch, "Plan and Market," *op. cit.*, p. 5.

<sup>12</sup> Within the legislative branch, the Federal Chamber is composed of 30 delegates from each republic and 20 from each autonomous province, and the Chamber of Republics and Provinces of 12 delegates from each republic and 8 from each autonomous province. Within the executive branch, the Presidency is composed of a member of each republic and autonomous province, and the Federal Executive Council is composed of officials elected in conformity with the principle of equal representation of the republics and autonomous provinces and of officials in charge of federal administrative agencies specified by law. This information is taken from the 1974 Constitution of the Socialist Federal Republic of Yugoslavia (Ljubljana: Delo, 1974).

for enterprise participation in policy-making while simultaneously guaranteeing needed coordination in crucial policy areas, such agreements were viewed as preferable to both the free market and direct or indirect government intervention as a means to achieve desired policy objectives. As a result, some observers have argued that the market mechanism will gradually be replaced by a system of self-management agreements covering all important aspects of economic decision-making.<sup>13</sup>

Within the enterprise itself the most important modification in the decision-making structure was the introduction of the so-called basic organization of associated labor (BOAL) as the fundamental decision-making unit. According to the 1974 Constitution, a BOAL could be established to represent any individual group of enterprise workers whose work results could be evaluated independently of the results of other workers. Relationships among BOAL's within an enterprise were to be formalized by voluntary intra-enterprise self-management agreements. Associations of BOAL's could freely delegate certain power to central administrative and central self-management bodies of the enterprise, but decisions involving the distribution of personal incomes, investment, and collective consumption were subject to ratification by individual BOAL's. The independence of BOAL's in the formation of enterprise-wide policy promised to weaken central enterprise administrative control thereby permitting individual workers to realize their self-management rights on the basis of equality.<sup>14</sup> However, this promise carried with it a potential threat that enterprise efficiency might be undermined by excessive decentralization and resulting stalemate in the decision-making process. To counter this threat, the 1974 Constitution gave to the enterprise trade union organization the responsibility to develop and enforce resolutions to intra-enterprise conflicts among BOAL's which could not be resolved by regular procedures.

Although it is too soon to judge what the effects of BOAL's on enterprise behavior will be, past experience with "economic units" within the enterprise might be instructive. Economic units, like the BOAL's which superseded them, were independent self-management organizations within an enterprise with much the same decision-making powers. Available anecdotal evidence cited in a recent study by David Granick suggests that worker participation in economic units did not lead to decentralization in matters of importance to the enterprise as a whole. Rather, units seemed to perform three important functions: (1) They served as a means of providing group incentive pay for all members of a given unit, with the amount of such pay being linked to the degree of fulfillment of the enterprise plan for the unit; (2) they decided on issues affecting individuals within the unit, such as the distribution of personal income and enterprise housing among unit members; and (3) they provided a mechanism through which unit members could insist on additional information from the enterprise central management.<sup>15</sup> Because such

<sup>13</sup> For example, J. Zupanov, a noted Yugoslav sociologist, has argued that the "market mystique" is being replaced by the "mystique of self-management agreements" in Yugoslavia. Zupanov is quoted by D. Granick in "Enterprise Guidance in Eastern Europe" (Princeton: Princeton University Press, 1975), p. 332.

<sup>14</sup> This was one of the goals behind the establishment of BOAL's, as stated in Article 14, Part II of the 1974 Constitution.

<sup>15</sup> D. Granick, "Enterprise Guidance in Eastern Europe," *op. cit.*, p. 378.

functions are important to the realization of self-management rights, BOAL's are likely to continue to satisfy them.

Special self-management structures, called "self-managing communities of interest," were also introduced in the social services sector during the 1971-75 period. By law, such communities were to be formed in education, science, culture and health. Each such community was to include those working in the respective service, representatives of the appropriate level of government, citizens groups, trade union representatives, and representatives of the enterprises which financed the service through their tax payments. The members of each community were to determine the quantity, quality, and price of the service in question by internal agreement. It was hoped that the formation of communities of interest would broaden local control over and local participation in the provision of social services to the population.

Before leaving the decision-making structure, something must be said about actual or potential changes in the economic decision-making role of the League of Communists. Unfortunately, only tentative conclusions can be drawn. It does seem clear that the party has become more unified since the early 1970's and that it has reasserted its leading role in the "construction of socialism." This undoubtedly means that the party organization and its members now play a more vital role in shaping economic policy within all government organizations. Within the enterprise, party influence can be exercised by individual workers, by enterprise party organizations and by the trade unions. Because the trade unions have been given a substantial role in the negotiation of self-management agreements, they may provide the most direct channel for party supervision of both intra-enterprise and inter-enterprise decisions. Regardless of the actual channel used, however, it seems reasonable to hypothesize that the 1971-75 period witnessed a strengthening of party influence in enterprise decision-making.

## *2. Changes in the Information Structure*

The 1971-75 period was marked by a growing realization of the need for greater co-ordination of economic decisions to meet development needs and to offset existing market distortions arising from price controls, monopoly pressures, and barriers to regional capital and labor mobility. Economic theory suggests that concern in this area was warranted. Investment decisions are known to involve externalities and to require information on future prices and factor costs which even a perfectly competitive market may not be able to supply. Furthermore, the existing theoretical literature on the self-managed enterprise<sup>16</sup> indicates that self-management of enterprise decisions in a market environment may interfere with the free flow of capital and labor to their most profitable uses. This problem is exacerbated in Yugoslavia by historical barriers to factor mobility across republican borders.

<sup>16</sup> The most exhaustive treatment of the western theory of the self-managed firm is found in J. Vanek, "The General Theory of the Labor-Managed Market Economy" (Ithaca: Cornell University Press, 1970). An alternative theory of the behavior of the self-managed firm based on Yugoslav experience is provided by B. Horvat in "Prilog zasnovanju teorije jugoslavenskog poduzeta," *Ekonomska Analiza*, 1967, I, Nos. 1-2; pp. 7-28.

The recognized need for more co-ordination, particularly in investment decision-making, gave rise to renewed interest in long-term development plans, and this interest culminated in a new law on the social planning system introduced in February, 1976. The law calls for a new system of plan development in which the economy-wide plan is to be based on individual plans originating in the enterprises. Enterprise plans in turn are to be built up using a common methodology, common assumptions, and a common plan period.<sup>17</sup> Republican and federal planning authorities are to aggregate and reconcile individual plans to come up with an overall plan which is internally consistent and which achieves macroeconomic balance.

The new planning system should strengthen the influence of the planning process on economic activity in at least three ways. First, enterprises are obliged by the new law to develop their own long-term plans, and the process of doing so may improve the quality of enterprise business decisions. Second, enterprises are to commit themselves to planned output, investment, wage and price targets in self-management agreements. Enterprises failing to comply with their intentions, as formulated in these agreements, may be penalized by specific sanctions or monetary fines. Finally, assuming the plans improve as a result of better information, they may be taken more seriously as a guide in individual enterprise decision-making. Unfortunately, the planning apparatus required for putting the new law into effect was not ready in time for the preparation of the 1976-80 plan.<sup>18</sup> Therefore, it is impossible to judge at this point how the new system will actually operate; only future experience will tell.

### *3. Changes in the Motivation System*

The constitutional and legal changes which occurred between 1971 and 1975 did little to change the basic premise of the motivation structure which is a dependence on material incentives and, to a lesser degree, on social or political incentives in economic decision-making. The introduction of BOAL's and the experience with self-management agreement probably broadened the scope for social incentives by focusing on self-management principles and by providing vehicles in which social consciousness could be brought to bear on economic decisions. One of the factors encouraging institutional change during this period was certainly the continued efforts of the leaders to preserve and strengthen the self-management ideal, and these efforts were probably successful in enhancing the role of socialist ideology in shaping economic decisions.

In summary, the 1971-75 period witnessed some major modifications of the decision-making and information structures, and only minor changes in the motivation structure of the Yugoslav economic system. Despite these modifications, the system remains fundamentally as it was before: a market system, guided by a long-term planning process, and exhibiting several special features due in part to the principles of self-management and socialism and in part to Yugoslavia's multi-

<sup>17</sup> D. Milenkovich, "Plan and Market: The Case of Yugoslavia," p. 9.

<sup>18</sup> A major stumbling block to the realization of the new planning system is the absence of long-term plans in the majority of enterprises. For example, only 40 percent of all enterprises had a long-term plan for the 1971-75 period. This figure is reported in *Ekonomiska Politika*, May 11, 1974, pp. 18-19 and is cited in ABSEES, April, 1975.

national character. These special features will become clearer through an examination of actual economic development in Yugoslavia during the last five years.

### III. ECONOMIC GROWTH AND EFFICIENCY, 1971-75

#### 1. Growth Rates

Table 2 contains actual and target growth rates for various categories of output and expenditure during the 1971-75 period and comparable target growth rates projected for the 1976-80 plan. The data reveal that between 1971 and 1975, total social product, defined according to the material product approach used by the Yugoslavs,<sup>19</sup> grew at an average annual rate of 6.0 to 6.3 percent, about 1.2 percentage points below the target growth rate. The actual growth rate was nearly identical to the 6.1 percent growth rate achieved during the 1966-70 period. Growth performance of this magnitude is disappointing to the Yugoslavs who have consistently targeted growth rates in the 7.0 to 7.5 percent range, and who have argued that such growth rates are essential to development and standard of living goals. Therefore, it is not surprising that the 1976-80 plan targets remain in this range, with a projected overall growth rate of 7.0 percent.

Within total social product, individual sectors differed in the extent to which plan targets were realized. In industry, actual and target growth rates were identical. In agriculture, where the OECD and

TABLE 2.—ACTUAL AND TARGET GROWTH RATES, 1971-80

	Actual average annual growth rate, 1971-75		Plan targets, 1971-75	Plan targets 1976-80
	OECD estimate	Yugoslav estimate		
Social product.....	6.0	6.3	7.5	7.0
Agriculture.....	3.0	4.1	3.0-3.5	4.0
Industry.....	8.0	8.1	8.0	8.0
Forestry.....		1.7	2.0-2.5	2.0
Construction.....		3.7	7.5-8.5	7.5
Transportation and communications.....		6.9	9.0	7.5
Trade and tourism.....		6.3	9.0	6.7
Handicrafts.....		6.5	8.0-9.0	7.2
Private consumption.....	5.5	5.3	6.5	6.0
Gross investment in fixed assets.....	7.0	7.1	7.5-8.0	8.0
Collective consumption.....		7.1	7.5	7.0

<sup>1</sup> Basis 1975 with average of agriculture for 1974-75.

<sup>2</sup> 5 = minimum acceptable. Minimum rates are cited on p. 38 of Social Plan for Yugoslavia, 1976-80 (Belgrade: Kultura, 1976).

<sup>3</sup> Basis 1970 with average of agriculture for 1969-70.

<sup>4</sup> 6 = minimum acceptable. Minimum rates are cited on p. 38 of Social Plan for Yugoslavia, 1976-80 (Belgrade: Kultura, 1976).

<sup>5</sup> Investment in fixed assets and stocks.

<sup>6</sup> Economic or productive investment is to grow by 8.5 percent while noneconomic investment in housing, public utilities and the like is to grow by 7.5 percent; see p. 66 of Social Plan, op. cit.

Sources: OECD estimates of actual growth from Yugoslavia (Annual Survey), 1976, p. 7. Yugoslav estimates of actual growth and 1976-80 plan targets from the Yugoslav Federal Planning Office document "Analytical Basis for the Documents of the Social Plan of Yugoslavia for the Period 1976-80," February 1976. Yugoslav plan targets for 1971-75 are from the Federal Planning Office document "Dokumentacija uz Društveni Plan Jugoslavije za Period od 1971 do 1975 godine," October 1971. In this and future tables, industrial growth rates are based on official Yugoslav statistics. For a discussion of possible weaknesses in these statistics see the paper by John Moore entitled "A New Index of Industrial Production in Yugoslavia, 1952-71" appearing in this volume.

<sup>19</sup> Yugoslav accounting methodology is based on the material product approach which excludes government wages and salaries, certain professions (education, legal and financial services, etc.), and certain other services from social product. Measures of social product based on this approach are less than standard GNP (gross national product) measures.

Yugoslav estimates differ, it seems fair to conclude that actual growth was at most .5 percentage points below the target of 3.5 percent. The biggest shortfalls between actual and target rates occurred in construction, transportation and communications, and trade and tourism. The poor performance in construction and, to a lesser extent in transportation and communications, is attributable in large part to the uneven impact of restrictive monetary policy on investment between 1971 and 1973, while the weak performance in trade and tourism can be explained in part by the slowdown in tourist receipts caused by the recession in Western Europe in 1974 and 1975.<sup>20</sup> The 1976-80 plan targets for transportation and tourism have been revised downward from their 1971-75 levels to reflect actual performance in these sectors. However, the 1976-80 plan target for construction remains in the 1971-75 plan range, and may be overly optimistic, given actual performance in recent years. Another optimistic target in the new plan may be the agricultural growth rate of 4.0 percent, which is in excess of the average rate of 3.2 percent a year realized in Yugoslavia during most of its postwar history.<sup>21</sup> The target agricultural growth rate reflects the fact that agriculture has been designated as a priority development sector along with energy, basic raw materials (ferrous and non-ferrous metallurgy, basic chemicals and non-metallic minerals), transportation, mechanical engineering, shipbuilding, and tourism.

Turning now to categories of expenditures, the data in Table 2 indicate that gross investment in fixed assets grew at an average annual rate of 7.1 percent during the 1971-75 period, slightly below the targetted rate of 7.5-8.0 percent. This performance is quite strong particularly in light of the restrictive investment policies followed in the 1972-73 stabilization period. (See Section VI.) A significant shortfall between actual and plan targets occurred in consumption. The actual average annual rate of growth of real personal consumption was only 5.3-5.5 percent instead of 6.5 percent as planned. Weak consumption performance was rooted in the stagnation of real personal incomes which increased by only 1.5-2.0 percent a year between 1971 and 1975. Real personal incomes were held down by a variety of factors, the most important of which included a slowdown in the rate of growth of nominal incomes paid in social sector enterprises, unexpectedly large increases in the cost of living index, and a slowdown in the rate of growth of worker remittances. The growth target for personal consumption during the 1976-80 period is 6.0 percent, only 0.5 percentage points below the 1971-75 growth rate. The new plan, like the 1971-75 plan, also calls for collective consumption to grow more rapidly than personal consumption, at an average annual rate of about 7.0 percent. Of particular importance in the collective consumption goal is the realization of a large increase in housing construction during the coming years. The new plan projects an increase of about 820,000 dwelling units by 1980, which implies an annual rate of growth of 8 percent in construction investment.

<sup>20</sup> In 1974, tourist earnings increased around 12 percent in nominal terms compared with a comparable increase of about 37 percent in 1973. In 1975, nominal tourist earnings increased by only about 5 percent. See Table 16.

<sup>21</sup> This is the growth rate of agriculture during the 1953-71 period. IBRD, Yugoslavia, op. cit., p. 152.

In the new plan, the growth target for fixed investment is not slated to decrease from the target rate of 7.5–8.0 percent set for the 1971–75 period. Continued emphasis on a high investment growth rate probably reflects the prevalent view that macroeconomic stabilization of the economy can only be guaranteed by fostering increases in aggregate capacity and supply. (For more on this view, see Section VI.) According to this view, slower growth in the real standard of living is required to strengthen investment capability and the balance of payments position, thereby providing a stable foundation for greater improvements in the standard of living in the future.

## 2. Sectoral Growth Plans, 1976–80

Figures from the long-term development plan for 1976–80 attest to the commitment of Yugoslav policy leaders to foster growth in critical “priority” sectors and to focus on important structural change during the next four years. The emphasis on priority sectors reflects in part the continuing efforts to reduce what is considered to be an excessive dependence of the economy on imports of raw materials and equipment and in part the need to eliminate certain domestic growth constraints particularly in energy, agriculture, and transportation.

Actual and target growth rates for individual sectors within industry are presented in Table 3. The data clearly identify the priority growth status accorded to electrical energy, coal, metallurgy, and chemicals. A perhaps more illuminating insight into growth priorities is obtained by examining growth targets for different types of goods. Not unexpectedly, basic metals (ferrous and non-ferrous metallurgy), equipment, and chemicals, goods which contribute to Yugoslavia's import dependence, are slated to grow the most rapidly.

TABLE 3.—ACTUAL AND TARGET GROWTH RATES BY SECTOR OF PRODUCTION,<sup>1</sup> 1971–80

	1971–75 actual <sup>2</sup>	1971–75 plan <sup>3</sup>	1976–80 plan <sup>3</sup>
Sector of production:			
Electrical energy .....	8.5	10	10.0
Coal .....	4.0	5	9.5
Oil .....	7.7	10	6.0
Ferrous metallurgy .....	5.6	10	11.0
Nonferrous metallurgy .....	7.4	12	11.0
Nonmetallic minerals .....	7.3	9	9.0
Metal products .....	8.8	8	8.5
Electrical equipment .....	10.9	10	9.0
Chemicals .....	12.0	12	14.0
Type of goods: <sup>2</sup>			
Energy .....	7.3	-----	9.0
Basic metals .....	7.9	-----	11.0
Equipment .....	8.2	-----	10.7
Nonmetallic minerals .....	8.3	-----	9.0
Chemicals .....	12.0	-----	14.0
All other .....	7.4	-----	6.1

<sup>1</sup> Growth rates of physical volumes of output.

<sup>2</sup> Data from Federal Planning Office document “Analytical Basis—1976–80,” op. cit., table 3.

<sup>3</sup> Data from Federal Planning Office document “Dokumentacija—1975 godine,” op. cit., table b.

Of course, priority sectors cannot be identified by target growth rates alone. In fact, transportation and tourism have been designated as priority development areas, but their target growth rates (as presented in Table 2) are not high relative to either actual or targetted

growth rates for the 1971-75 period. A similar observation applies to energy, which has been accorded priority status partly in response to the impact of the 1973-75 oil crisis and partly in response to the pressing shortage of domestically generated electrical energy. Within the energy sector, only coal is targetted to grow at markedly faster rates than it did in the past. On the other hand, the priority of the energy sector can clearly be seen in the projected distribution of total investment expenditures among sectors during the 1976-80 period. Total investment in fixed capital is projected to rise by 185 percent above its 1971-75 level in energy, with a 140 percent increase in electrical power, and a staggering 625 percent in oil. The only other priority sector in industry slated to achieve such a large increase in investment expenditures is the chemical sector where total investment in fixed assets is to rise by 282 percent.<sup>22</sup> If these increases are realized, the share of energy in total fixed investment will increase from 23.7 percent during the 1971-75 period to 41.9 percent during the 1976-80 period, while the share of chemicals will rise from 3.6 to 8.4 percent. Perhaps more revealing, the share of energy, basic metals and chemicals in total industrial investment will increase from 45.8 to 63.3 percent, leaving only 36.7 percent for all other industrial sectors.<sup>23</sup> A concentration of investment expenditures of this magnitude reflects the decision of policy makers to emphasize priority sectors and significant structural change during the new plan period.

The Yugoslav leaders appear committed to undertake the policy measures required to guarantee the desired pattern of investment expenditures during the coming years. The most important such policy measures identified in the 1976-80 plan include the following:

1. The use of public loans and bond issues to obtain funds for priority investment projects;
2. Preferential treatment of equipment imported for priority sectors;
3. Preferential credit terms for loans to finance priority projects;
4. Tax breaks for enterprises that engage in "socially necessary" investment and for individuals who subscribe to public loans or bonds to finance such investment; and
5. Possible obligations imposed by competent government authorities on enterprises to pool their labor and investment resources in the realization of certain priority projects.

The commitment to these policies suggests that the Yugoslav government plans to take a more active role in the allocation and stimulation of investment expenditures during the current plan period.

### *3. Growth and Efficiency in Resource Use*

#### A. SAVINGS AND INVESTMENT RATES

Since the economic reform of 1965, the Yugoslavs have emphasized both high investment rates and the efficient use of capital and labor

<sup>22</sup> Foreign loans and financing will undoubtedly play an important role in the realization of some of the investment growth targets. For example, in both oil and chemicals, foreign funds are already committed to the completion of certain large projects, such as the Adria oil pipeline.

<sup>23</sup> The investment figures are taken from Table 22 of the Federal Planning Office document, "Analytical Basis for the Documents of the Social Plan of Yugoslavia for the Period 1976-80," February, 1976.

as the means to achieve desired growth targets. Efforts to realize this growth strategy, however, have been hampered by the presence of market imperfections and by the absence of government policies to directly promote efficiency in resource use. Most government measures to stimulate growth have concentrated on encouraging additions to the capital stock through productive investment in the enterprise sector. The continuation of this investment-oriented approach during the 1971-75 period fostered the high investment effort suggested by the figures presented in Table 4. In fact, the average investment rate for additions to fixed capital realized during this period exceeded the rates realized during the previous plan period and reversed the gradual decline in the investment rate that began, at least partly by intent, in 1965.

TABLE 4.—THE DISTRIBUTION OF SOCIAL PRODUCT BY CATEGORY OF EXPENDITURE

	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975
Social product <sup>1</sup> .....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Consumption.....	51.0	53.4	53.1	51.9	53.1	52.9	53.3	52.2	51.7	51.7
Gross investment in fixed assets.....	26.9	27.9	29.0	27.9	30.9	30.3	29.9	29.3	29.3	29.6
Change in inventories.....	12.5	5.6	3.4	5.5	8.6	10.6	7.5	5.1	10.6	10.6
Foreign balance.....	-1.2	-2.2	-2.6	-2.8	-4.3	-7.9	-3.6	-5.0	-8.7	-8.7
Collective consumption.....	8.2	8.8	9.1	9.0	8.8	8.2	8.2	8.1	8.0	8.0

<sup>1</sup> Social product and expenditure categories are measured in 1966 prices.

<sup>2</sup> Columns do not add up to 100 because of the statistical discrepancy.

<sup>3</sup> Measured in 1972 prices.

Sources: Yugoslav estimates provided to the OECD and reported in OECD, *Yugoslavia (Annual Survey) 1976*, table A, Statistical Appendix. 1975 figure for investment from table 106-11, *Statistički Godišnjak, 1976*.

The substantial investment effort of the past five years necessitated the mobilization of domestic savings to support it. An apparent increase in household and enterprise savings rates was instrumental in this regard. Household savings increased from 26.2 percent of total savings during the 1966-70 period to 33.6 percent during the 1970-74 period. The corresponding rise for the enterprise sector was from 51.4 to 53.5 percent of total savings.<sup>24</sup> The increase in the role of enterprise savings was noteworthy because it reversed an earlier trend. Between 1965 and 1970, the share of enterprise net income retained as savings in various funds declined from an average of about 45 percent to an average of about 40 percent.<sup>25</sup> Short-term policy measures and the 1971-75 plan aimed at reversing this downward trend and apparently achieved some success at least in 1973 and 1974, when enterprise savings rates increased to about 44 percent of net income.<sup>26</sup> The introduction of an incomes policy which regulated the distribution of net income was largely responsible for the increasing savings rate, although a number of temporary regulations aimed at strengthening enterprise liquidity and designed to alleviate the "illiquidity" crises (described below) also had a stimulating effect on enterprise savings.

The apparent tendency of Yugoslav enterprises to reduce savings rates when they have discretion over the distribution of net income

<sup>24</sup> Figures are calculated from data reported in Table 7, Appendix, of National Bank of Yugoslavia, *Quarterly Bulletin*, January 1974 and January 1976.

<sup>25</sup> Figures are calculated from data reported in Table 6.5, Statistical Annex of IBRD, *Yugoslavia*, op. cit. Savings includes depreciation and is measured out of enterprise net income defined as the total of depreciation, net personal incomes and allocations to funds.

<sup>26</sup> Figures are calculated from Tables 107-4 and 107-5, *Statistički Godišnjak, 1976*.

can be explained by models of the savings and investment behavior of the self-managed firm developed by Vanek, Pejovich and Furubotn and others.<sup>27</sup> The conclusions of these models are derived in the appendix to this paper and are only summarized here. Consider first the case in which all enterprise investment is financed by retained earnings. As long as enterprise capital is socially rather than privately owned, workers face a choice between distributing net income and investing in individually owned assets which earn a rate of return and have a recoverable principal, or retaining a share of enterprise net income to finance enterprise capital investment which earns a rate of return but has non-recoverable principal. Assuming workers maximize the present discounted value of their earnings over time, their choice depends on a comparison of the expected rates of return on individual and collective investments.

For a fixed rate of return on privately owned assets, it can be demonstrated that the equilibrium capital stock and the desired volume of enterprise savings and collective investment will depend on the expected length of job tenure and the marginal rate of time preference of individual workers. The shorter the length of time workers expect to remain with an enterprise and the greater their preference for current over future consumption, the smaller the equilibrium enterprise capital stock and the smaller the volume of enterprise savings and collective investment.

So far the discussion has assumed that all enterprise investment is "self-financed" by retained earnings. Suppose instead that the enterprise can borrow funds from external lenders, such as banks, at a fixed interest rate. Then, depending on the relationship between this interest rate, the marginal rate of time preference of workers, and the expected rate of return on enterprise investment, three outcomes are possible: (1) All enterprise investment is financed by external funds and enterprise savings is zero; (2) enterprise retained earnings are used to finance enterprise investment and external borrowing is zero; or (3) enterprise investment is financed by a combination of enterprise savings and external funds. What is important to note here is that if external lending rates are set artificially low, this will encourage enterprises to drive their internal savings towards zero, relying on external sources of funds for collective investment.

To summarize, savings in the self-managed enterprise depends on the rates of return on collective and individual assets, the rate of interest on external sources of funds, the time horizon considered and the collective rate of time preference shared by enterprise members. To understand the savings behavior of the Yugoslav firm, it is necessary to examine the relationship between these parameters in the Yugoslav economy. According to prevailing estimates, the real rate of return on enterprise investment in Yugoslavia has been anywhere from 9 to 12 percent during the last decade and one-half.<sup>28</sup> The nominal return on individually-owned savings accounts, the asset

<sup>27</sup> See, for example, J. Vanek, "The Basic Theory of Financing of Participatory Firms," in Vanek, ed., "Self-Management: The Economic Liberation of Man" (Ithaca: Cornell University Press, 1975) and S. Pejovich and E. Furubotn, "Property Rights and the Behavior of the Firm in a Socialist State: The Example of Yugoslavia," *Zeitschrift für Nationalökonomie*, 1970, pp. 431-454.

<sup>28</sup> An estimate of 9 percent is suggested by J. Vanek and M. Jovicic in "Capital Market and Income Distribution in Yugoslavia," *Quarterly Journal of Economics*, August, 1975, pp. 432-444. P. Miovic suggests a measure of 12 percent in his work on Slovenian industry in "Determinants of Income Differentials in Yugoslav Self-Managed Enterprises," unpublished Ph.D. dissertation, University of Pennsylvania, 1975.

alternative most accessible to workers, has been on the order of 6 to 10 percent. The data in Table 5 indicate that the associated real return, adjusted for the inflation rate, has frequently been negative. Similarly, nominal interest rates on medium-term and long-term bank credits, ranging from 8 to 12 percent, have frequently meant very low and sometimes negative real interest rates, which have not come close to estimated rates of return on enterprise investment. Under these circumstances, theory predicts low enterprise savings rates and persistent enterprise competition for scarce bank credit. These predictions appear to have some relevance to Yugoslav experience. Most observers agree that there is fairly continuous excess demand for bank credit by Yugoslav enterprises. Moreover, as was noted earlier, during the period of full enterprise discretion over net income distribution, savings rates fell markedly. Nonetheless, enterprise savings has been substantial despite the availability of cheap external funds, and enterprise retained earnings have contributed about 34 percent of the finance for fixed capital investment in recent years. The banks themselves have been instrumental in encouraging enterprise savings by requiring such savings as collateral for bank loans and by granting loans to finance only a certain percentage of an investment project, the remainder to be financed out of enterprise retained earnings. The banks have used these criteria as rationing devices to allocate credit among competing users. Such devices enhance the leverage effects of enterprise savings, because a relatively small savings effort may result in access to the real resource transfer associated with an external loan at low or negative real interest rates.

TABLE 5.—SELECTED INTEREST RATES

	1966	1967	1968	1969	1970	1971	1972
Sight deposits (percent).....	5	6	6.0	6.0	6.0	6.0	7.5
Time deposits.....	6	7	7.0	7.5	7.5	7.5	10.0
Bank loans.....	8	8	10.0	8.0	8.0	8.0	12.0
Inflation rate—retail prices.....	21	7	4.9	6.3	10.3	15.0	15.2

Sources: IBRD, Yugoslavia, *op. cit.*, p. 228 and S. Komacez, "Inflacija Bankarski Mehanizam i Kamatna Stopa," *Jugoslovensko Bankarstvo*, April 1971, p. 9. Inflation rates are annual and are calculated from a retail price index in table 122-2, *Statisticki Godisnjak*, 1976.

Assuming the theory of enterprise savings behavior discussed here is roughly applicable to Yugoslav experience, it can be used to explain why the Yugoslav authorities were forced to adopt some control over enterprise income distribution to achieve desired savings rates. As long as enterprise workers share in the returns to enterprise capital only while they are employed by the enterprise, and as long as nominal interest rates fail to reflect the real rate of return on capital, discretionary enterprise savings rates are likely to be low. During the current plan period enterprise savings rates will be influenced by the continuation of some form of incomes policies and by new legislation designed to modify the rules for calculating required depreciation. In addition, by more frequent revisions of the values of fixed and working capital, the Yugoslavs hope to offset some of the negative effects of inflation on enterprise savings rates.<sup>29</sup> Finally enterprise savings should be

<sup>29</sup> See "Social Plan of Yugoslavia, 1976-1980," *op. cit.*, p. 38.

influenced by the new accounting rules for enterprise income which prevent distribution of anticipated income, in the form of outstanding accounts receivable, before it is actually realized. (See discussion of illiquidity crises below.)

#### B. GROWTH AND CAPITAL EFFICIENCY

To evaluate efficiency in capital usage two different types of measures should be considered: first, aggregate measures of the relationship between capital and output or labor which reflect trends in capital intensity and aggregate capital productivity; and second, measures which relate to the efficiency of capital allocation among enterprises, sectors of production, and regions. Both types of measures are examined here, as far as the data permit, to evaluate the Yugoslav experience in recent years.

Aggregate and sectoral measures of changes in capital, output, and employment during the 1966-70 period were recently calculated and reported in the IBRD study of Yugoslavia. The results indicated that both the incremental capital-output ratio and the incremental capital-labor ratio increased sharply between 1965 and 1970 for total industry, construction and transportation. Although no simplistic conclusions about capital efficiency can be drawn from these results, they do suggest that in the first post-reform planning period, additions to the capital stock had smaller effects on output and employment than had been the case earlier. Preliminary results presented in Table 6 indicate that the situation may have improved during the 1971-75 period, at least as far as the output effects of additions to the capital stock are concerned. If the figures are to be believed, then the incremental capital-output ratio apparently declined noticeably in both industry and transportation. Of course, the decline in industry may have been the result of changes in the sectoral composition of aggregate industrial investment rather than the result of changes in the efficiency of capital usage. On the other hand, even a change in investment composition in favor of less capital intensive sectors is relevant to an examination of resource efficiency, when there is reason to suppose that past investment patterns have been biased in favor of capital intensive sectors by market distortions and other factors.

Aggregate data suggest that additions to capital had significantly greater employment effects during the 1971-75 period when real

TABLE 6.—INCREMENTAL CAPITAL/OUTPUT RATIOS,<sup>1</sup> 1966-70 AND 1971-75

	1966-70	1971-75
Industry.....	4.90	3.38
Construction.....	1.41	1.94
Transportation.....	9.17	6.77
Trade and tourism.....	2.12	2.44
Total social sector.....	4.53	3.31

<sup>1</sup> The ratios are calculated in the following way: the increase in real output over the period is measured by the change in real social product; the increase in the real capital stock is measured as the sum of total real investment in fixed capital during the period. This procedure does not allow for the very real possibility of gestation lags between real investment and actual increases in the capital stock. However, data limitations precluded alternative procedures allowing for such lags.

Sources: 1971-75 figures are calculated using the social product and investment data in tables 2 and 12 of the Federal Planning Office document "Analytical Basis—1976-80 plan," op. cit. 1966-70 figures are calculated using the social product and investment data in tables 105-4 and 105-6, Statisticki Godisnjak, 1974.

investment grew at an average annual rate of 7.0 percent and social sector employment grew at an average annual rate of 4.3 percent than they did during the 1966-70 period when social sector employment grew by 0.7 percent a year while investment grew at 6.9 percent a year. These figures imply a downward trend in the aggregate capital-labor ratio in recent years. Despite the possibility of such a decline and even assuming it did occur, concern about the excessive capital intensity of the Yugoslav development effort persists.

There are several factors acting to bias factor proportions in favor of capital in Yugoslavia. Low nominal and real interest rates, as reported in Table 5, certainly have this effect. A fiscal system which bases enterprise taxes on labor inputs and which fails to tax capital usage or the returns to capital inputs has a similar impact.<sup>30</sup> Finally, enterprise decision-making rules themselves may encourage excessive capital intensity. Models of the self-managed enterprise indicate that if enterprise workers seek to maximize net income per worker then they will try to maximize the productivity of labor currently employed by the enterprise. Increasing the capital stock per employed worker may be a reasonable means for seeking to achieve this objective, provided the enterprise pays no rental charge or tax on its use of capital. In this case, the returns to capital may be distributed to workers as personal incomes, and if workers leave the firm and are not replaced, distributable income per remaining worker will rise as a result of the increase in the capital/labor ratio. Under these circumstances, there exists a tendency towards what Vanek has labeled a *reductio ad absurdum* where the last man runs the whole firm after restructuring the capital equipment in favor of automation.<sup>31</sup> Moreover, even if the firm pays a rental charge for its capital, a tendency towards excessive capital intensity may exist. Suppose that after payment of this charge, the firm has excess profits which it distributes as worker incomes. In this case, the wage/rental ratio implied by the relationship between distributed labor incomes and the capital charge may bias the firm in favor of capital-using and labor-saving production techniques.

Although it is conceivable that excessive capital intensity in Yugoslavia is attributable to enterprise behavior of the type modeled here, it is impossible to isolate the role of this factor from the roles of the fiscal and financial systems which undoubtedly contribute to the problem. It should be noted, however, that if the taxation guidelines of the new plan are followed, then the fiscal system may become less of a problem in this regard. According to these guidelines, taxation of enterprise net income or some other measure of the "results of economic activity" is to be substituted for taxation of factors of production.

The presumption that the capital-labor ratio is too high in Yugoslavia implicitly depends on the assumption that there exists a fairly substantial choice of capital-labor techniques for producing different kinds of output. However, opinion differs about the reasonableness of this assumption, particularly as it applies to a small open economy

<sup>30</sup> IBRD, *Yugoslavia*, op. cit., p. 61. Wage-based taxes have increased the cost of labor to enterprises by some 40-45 percent in recent years.

<sup>31</sup> J. Vanek, "General Theory," op. cit., p. 306.

seeking to become more independent of raw material and capital imports and to become more competitive in the export of these same commodities. Modern, efficient, and technologically advanced industries which will aid in the realization of these objectives may be capital intensive by their very nature. Under these circumstances, the objective of maximizing the employment effects of a given investment effort may conflict with other policy goals, and a choice among objectives will be required. Perhaps this scenario is relevant to the Yugoslav experience. Certainly, policy has favored capital intensive methods and sectors of production, largely in an attempt to make the Yugoslav economy more competitive internationally. During the 1971-75 plan period, this policy was combined with growing efforts to foster the expansion of labor intensive sectors, such as housebuilding, services and agriculture, to alleviate pressing employment problems. The rapid increase in labor employment which was realized implies considerable success in this area.<sup>32</sup>

Even if capital intensity distortions are not as great in Yugoslavia as is sometimes thought, capital may still be used inefficiently if it is misallocated among competing users. Unfortunately, it is virtually impossible to obtain quantitative measures of capital misallocation. Nonetheless, the presumption is strong that capital distribution is suboptimal primarily because of the criteria impinging on capital allocation decisions. Interregional optimality is prevented by significant barriers to capital mobility which encourage banks, enterprises, and republican and communal governments to keep capital resources within local boundaries. "Political factories" and the duplication of investment efforts among republics are some of the consequences of these barriers.<sup>33</sup> Intersectoral allocations of capital are influenced by the existence of market distortions in the form of incorrect interest rates and price controls. (See Section VI.) These distortions are either offset or exacerbated, as the case may be, by government policies to favor investment in certain priority sectors by access to preferential credit and foreign exchange. Finally, interenterprise allocations which are affected by both the interrepublican and intersectoral distribution processes are also influenced by the credit rationing rules of the banking system. In an environment of disequilibrium credit rates and excess demand for loanable funds, these rationing rules effectively determine the allocation of funds among potential users. Although banks are beginning to use sophisticated project analysis rules as a rationing device, many credit decisions are still based on rules which reflect the influence of major borrowers on bank decisions. Because of the co-operative nature of the Yugoslav banks, enterprises which contribute to bank capital funds and thereby obtain a voice in the formulation of bank lending policies are frequently able to win for themselves the real resource transfer carried with a low interest bank loan.<sup>34</sup> The potential importance of bank membership on bank loan

<sup>32</sup> To increase the rate of growth of employment opportunities in the future, the Yugoslavs hope to create more favorable conditions for the development of private sector activity by establishing various forms of cooperation with the social sector and by adjusting taxation policies in the private sector. These policies are discussed in "Resolution on Fundamental Principles of Common Policy of Yugoslavia's Economic and Social Development in 1975," translated by T. Perović for the IBRD from Borba, January 27, 1975, p. 16.

<sup>33</sup> The role of republic and communal governments in investment decisions has been discussed in detail in the IBRD study, Yugoslavia, op. cit., Chapter 9, and in D. Granick, "Enterprise Guidance in Eastern Europe, op. cit.," pp. 395-404.

<sup>34</sup> For greater detail on the institutional structure of Yugoslav banks, see L. D'Andrea Tyson, "The Yugoslav Banking System and Monetary Control," unpublished paper presented at the meetings of Western Economic Association, June, 1976.

terms is suggested by the fact that loans to non-members frequently carry interest rates as high as 25 percent and account for only about 5 percent of total bank loans.<sup>35</sup>

A final factor which may distort the interenterprise allocation of capital is the recurrent tendency of enterprises to default on outstanding trade debt, thereby obtaining at least a temporary extension of credit at fixed cost from involuntary lenders. Although increases in the stock of involuntarily held trade debt cannot provide a net addition of credit to the enterprise sector, they can reallocate scarce credit among competing users. In this reallocation process, there is no guarantee that the more efficient enterprises will be the recipients of additional credit; in fact, the presumption is that the less efficient enterprises will default, causing a reallocation of credit from more to less profitable users. Reallocations of this type have undoubtedly become less important in recent years with the introduction of several legislative measures to quell the 1969-71 illiquidity crisis.<sup>36</sup> Of particular importance in this regard is the new enterprise accounting law of 1975 which redefines enterprise income to exclude outstanding accounts receivable unless covered by bank guarantees<sup>37</sup> and which calls for the merger or bankruptcy of enterprises failing to meet their financial obligations. The law also envisions the introduction of a financial market for the buying and selling of commercial bills of exchange. Such a market will allow for the orderly reallocation of credit among enterprises.

In concluding this section on the efficiency of capital use, it is important to recognize that the Yugoslav authorities are well aware of the problems discussed here. As a matter of fact, concern about inefficiencies in the investment process has fostered the new emphasis on the role of planning. This concern has also led to laws which stimulate capital mobility by allowing enterprises to lend directly to one another and which encourage joint efforts or pooling of funds among enterprises to finance large investment projects. In addition, concentration by merger or other means has continued to receive official support because of the widespread feeling that large size is required for competitiveness and that "powerful groups of producers are the protagonists of production and development."<sup>38</sup> Although sectoral figures on the degree of concentration are unavailable, aggregate figures reported by *Ekonomaska Politika* indicate that it is substantial, at least as measured by the 1975 share of the 200 biggest enterprises in total gross income (44 percent), total turnover (51 percent), total fixed and working capital (50 percent), and total labor employment (38 percent).<sup>39</sup> It should be emphasized that planning, industrial

<sup>35</sup> Figures cited in IBRD, Yugoslavia, op. cit., p. 241.

<sup>36</sup> The policies adopted to combat illiquidity are described in the OECD's Annual Survey of Yugoslavia for 1973 and 1974.

<sup>37</sup> OECD, Yugoslavia, 1976, p. 28.

<sup>38</sup> This quotation is taken from the Federal Executive Council's document "An Outline of the Concepts of the Social Plan of Development of Yugoslavia from 1971 to 1975," Belgrade, 1971. D. Granick's recent study of Yugoslav enterprises indicates that the Yugoslav belief that concentration in industry will foster greater efficiency and capital mobility is reasonable. Granick himself argues that "mergers are the principal form of transferring capital from one sector to another and of strengthening the managerial capabilities of enterprises that are poorly directed." See Granick, "Enterprise Guidance in Eastern Europe," op. cit., pp. 428-429.

<sup>39</sup> These figures are calculated from data provided in "The Biggest Two Hundred Firms" ("200 Najveći") a supplement to *Ekonomaska Politika*, September 20, 1976, p. 360. The figures are reported in "Yugoslavia's 200 Biggest Enterprises," Radio Free Europe Background Report No. 215, October 12, 1976, p. 5, written by Zdenko Antić.

concentration, and special legislation for joint ventures and the pooling of funds are among a variety of measures which can serve to stimulate capital mobility in a system where equity ownership is precluded by ideological principles.

### C. GROWTH AND EFFICIENCY IN THE USE OF LABOR

Partly because of the new emphasis on efficiency introduced by the 1965 reform and partly because of the prolonged recession which followed its introduction, employment in the social sector of the Yugoslav economy<sup>40</sup> increased by only 0.7 percent per year during the 1966-70 period. By chance, this exceptionally low growth rate coincided with an unusually rapid increase in the labor force available to the social sector which is estimated to have increased by about 4.7 percent per year.<sup>41</sup> The resulting imbalance between the demand for and the supply of labor was undoubtedly one of the factors behind the steady increase in the number of registered jobseekers and behind the tremendous outflow of Yugoslav laborers to Western European labor markets. In fact, during this period, when the annual net outflow of workers increased from 26,000 in 1966 to 240,000 in 1970, emigration provided jobs for more than twice as many workers as did the expansion of domestic employment.<sup>42</sup>

The disappointing growth in employment in the last half of the sixties led to a policy decision to increase job opportunities in the social sector by an average of 2.5 to 3.0 percent a year during the 1971-75 plan period in order to absorb the natural increase in the labor supply caused by population growth and to reduce, as far as possible, the number of unemployed workers. The plan foresaw that this employment target would necessitate a drop in the rate of growth of labor productivity from the 5.9 percent per year which had prevailed between 1966 and 1970, to a more moderate 5.0 percent a year. As the data in Table 7 reveal, the anticipated slowdown in productivity did materialize, but it was more marked than had been expected. Actual productivity slowed to an increase of only 2.4 percent a year while employment grew in excess of target at 4.3 percent a year. Actual increases in productivity differed importantly between sectors. High productivity growth was realized in social sector agriculture and, significantly, in industry which accounted for about 47 percent of total social sector employment. Disappointing labor productivity gains were realized in construction, trade and tourism, transportation, and crafts and services, all of which contributed substantially to employment growth.<sup>43</sup>

<sup>40</sup> The Yugoslav economy is divided into a modern socialist sector governed by the principles of social ownership and self-management and a private sector which is largely peasant agriculture but also includes private activity in tourism and services. In the 1971-75 period, approximately 45 to 50 percent of the economically active population and about 17 percent of total social product were located in the private sector.

<sup>41</sup> The actual labor supply available to the social sector is defined as the sum of workers in the socialist productive sector, the socialist non-productive sector (mainly government and communal services), workers abroad and persons who are actively seeking work and are registered as unemployed. Figures on the labor supply as thus defined are taken from J. Mencinger, "A Quarterly Macroeconomic Model of the Yugoslav Economy," unpublished Ph. D. dissertation, University of Pennsylvania, 1975, p. 55.

<sup>42</sup> OECD, *Yugoslavia, 1973*, p. 27. This survey contains a detailed discussion of labor force and employment trends during the 1961-71 period.

<sup>43</sup> No attempt is made in this survey to calculate the behavior of total factor productivity in recent years because of the difficulties involved in determining a correct measure for the return to capital in Yugoslavia.

TABLE 7.—EMPLOYMENT AND LABOR PRODUCTIVITY GROWTH RATES, 1971-75

	1971-75 plan <sup>1</sup>		1971-75 actual <sup>2</sup>	
	Employment	Labor productivity	Employment	Labor productivity
Total social sector.....	3	5	4.3	2.4
	1971-75 actual growth of social product <sup>2</sup>	1971-75 actual growth of employment <sup>3</sup>	1971-75 actual growth of labor productivity <sup>4</sup>	
Industry.....	8.1	4.2	3.9	
Agriculture (social sector).....	6.0	-2	6.2	
Forestry.....	1.7	-9	2.6	
Construction.....	3.7	2.8	.9	
Transportation and communications.....	6.9	5.1	1.8	
Trade and tourism.....	6.3	6.9	-6	
Handicrafts.....	6.5	5.2	1.3	
Utilities.....	5.2	3.3	1.9	

<sup>1</sup> Figures from Federal Planning Office document, "Dokumentacija—1975 godine," op. cit., table 1.

<sup>2</sup> Figures from Federal Planning Office document, "Analytical Basis—1976-80 plan," op. cit., table 2.

<sup>3</sup> Rates of growth calculated using average annual employment levels for 1971 and 1975 reported in Indeks, June 1972 and June 1976.

<sup>4</sup> The rate of growth of labor productivity is approximated by the difference between the rate of growth of social product and the rate of growth of employment by sector. Data limitations on the level of real social product by sector (measured in 1966 prices) necessitated this approximation approach.

Although the Yugoslav leaders are undoubtedly pleased by the rapid increase in domestic employment opportunities, which was particularly crucial given the reduction in the new outflow of emigrants following the 1973-75 recession in Western Europe, they remain anxious to stimulate productivity gains in social sector activities. In fact, according to the plan, economic growth during the present period is to be predominantly based on increases in labor productivity. Such increases are thought to be necessary to keep the economy competitive in international markets and to reduce cost pressures in internal price formation. Consequently, the 1976-80 plan targets aim to moderate social sector employment growth to an average annual rate of 3.5 percent which, based on projections about the growth rates of social product, should allow for a targetted growth of 4.0 percent in labor productivity. It is hoped that productivity will be helped by better coordination of investment and production both through government policy measures and through further concentration and joint efforts in industry.

Because of the pressing domestic employment problem, however, the Yugoslav leaders can no longer be preoccupied with high productivity growth as they were in the 1966-70 period. The magnitude of the problem is suggested by the fact that despite the realized increase in employment between 1971 and 1975, the number of registered jobseekers increased dramatically from 290,000 to 540,000 during the same period. Of course, this increase is not solely the result of an increase in the number of openly unemployed workers, since jobseekers include both those who already have a social sector job but wish to find another and those who are currently employed in the private sector (mainly agriculture) but seek social sector employment. Both types of workers are likely to register in greater numbers during a period of rapid employment growth when the probability of finding a social sector job increases. However, these

two groups should be distinguished, because those who are currently employed in the private sector represent disguised unemployment which reflects the dualism between the private and social sectors of the economy. Although there is no precise measure of the magnitude of disguised unemployment, recent estimates suggest that there are anywhere from 300,000 to 1,000,000 workers in private agriculture who can be transferred to the social sector without any appreciable decline in agricultural output.<sup>44</sup>

The disguised unemployment problem has an important regional aspect. In the less developed regions and particularly in Kosovo, where the share of private sector unemployment and the rate of population increase are higher than the national average, a substantial volume of disguised unemployment exists. In contrast, in the more developed regions, particularly in Croatia and Slovenia, a situation of full employment and excess demand for certain skill categories of labor may already exist. These regional differences in the magnitude of the employment problem are suggested by differences in regional unemployment rates, calculated as the ratio between registered jobseekers and the sum of jobseekers plus social sector employment. In 1975, for example, regional unemployment rates ranged from a high of nearly 24 percent in Kosovo to a low of about 2 percent in Slovenia, and the share of the less developed regions (Macedonia, Montenegro, Kosovo and Bosnia-Hercegovina) in total registered jobseekers was 43 percent while their share in total social sector employment was only 26 percent.<sup>45</sup> The regional dimension of the unemployment problem suggests that any policy efforts to solve it must focus on methods to facilitate the flow of workers from labor surplus to labor scarce regions. Moreover, even if the interregional flow of migrants from the less developed regions to the more developed regions continues<sup>46</sup> and expands, there remains the problem of matching the skill composition of the migrants with the skill requirements of available jobs in the developed republics. Unskilled private sector agricultural workers may not be a substitute for the skilled workers required by social sector industry at least in the short run.

Part of the shortage of skilled workers in the developed regions is due to the emigration of such workers to Western European labor markets in search of higher wages.<sup>47</sup> Consequently, this shortage may be alleviated somewhat by the net return of workers which began in 1974, when a reported net inflow of 50,000 migrants was recorded, and which continued in 1975, when another 50,000 workers were reported to have returned.<sup>48</sup> Of course, the net return of migrant labor adds to

<sup>44</sup> The OECD recently suggested a figure of 300,000 while the IBRD quoted an estimate of nearly one million. See OECD, *Yugoslavia, 1973*, p. 32, and IBRD, *Yugoslavia, op. cit.*, p. 89.

<sup>45</sup> Figures calculated from data in Tables 203-1 and 203-11, *Statistički Godišnjak, 1976*.

<sup>46</sup> According to the 1971 census, about 265,000 people migrated from the less developed republics to the more developed republics during the 1961-71 period. No data are available to estimate the migration flow during the 1971-75 period. See IBRD, *Yugoslavia, op. cit.*, p. 82.

<sup>47</sup> Of emigrant workers covered by the 1971 census, about 57 percent were paid employees before they left Yugoslavia, 16 percent were private farmers and 27 percent were unemployed. Skilled workers were estimated to account for about 26 percent of the total emigrant labor force in 1971. See OECD, *Yugoslavia, 1973*, pp. 34-35. Additional estimates indicate that at least one-third of all Slovene migrant workers are skilled or have a college education. These figures are quoted in Borba, March 12, 1973, p. 5, and cited in ABSEES, April, 1975.

<sup>48</sup> These figures are reported in the Federal Planning Office document "Analytical Basis \* \* \* 1976-80 plan," *op. cit.*, p. 3. Other estimates suggest that the net inflow of workers may have averaged 100,000 in 1974 and 1975. These larger figures are cited by Z. Antić in "Yugoslavia on the Way to Economic Recovery," Radio Free Europe Background Report No. 229, November 9, 1976, p. 5, and are taken from *Ekonomska Politika*, May 17, 1976.

the magnitude of the overall employment problem and makes a rapid expansion of domestic job opportunities a major development task. It should be noted, however, that the gradual return of migrant labor and restrictions on the further outflow of certain types of labor have been policy goals throughout the 1970's. As early as 1973, legislation was passed to control the number and composition of departing workers by republic, and in 1974, a social compact provided that the employment bureaus in Yugoslavia could no longer offer foreign positions to workers who had vacated domestic positions in order to work abroad. In summary, although most observers agree that the benefits external migration have exceeded the costs, it seems that the scope for further migration will be limited both by employment conditions abroad and by policy measures in Yugoslavia aimed at keeping migration within its permissible range, the upper limit of which seems to have been reached in the early 1970's.<sup>49</sup>

Because of limits on the magnitude of further migration and because of the continuing pressure of disguised unemployment in the countryside, the Yugoslavs must try to expand domestic job opportunities during the next five years. According to the 1976-80 plan, the employment tasks include the following: employment of the increment of the working-age population and of skilled labor; faster employment of women; and a reduction in the number of unemployed in the country and in the number of Yugoslav workers temporarily employed abroad. Some of the necessary jobs to achieve these tasks will be located in the social sector. The expectation is that social sector jobs will arise largely through the reallocation of labor to labor-intensive activities especially in the tertiary sector. However, recent policy resolutions indicate that considerable effort will be exerted to increase jobs in the "minor or secondary" private economy in such activities as services, construction and agriculture.<sup>50</sup> To achieve these goals, legislation reducing taxes and expanding credit opportunities for the private sector and legislation stimulating greater co-operation between social and private agriculture are being discussed. In addition, the Yugoslavs plan to introduce new retraining and worker education programs to tackle special structural and regional unemployment problems.

Finally, it should be noted that the Yugoslavs themselves are not overly optimistic about redressing the imbalance between labor demand and labor supply within the next five years. According to the Fundamentals of Common Policy for Long-term Development of Yugoslavia until 1985, the Yugoslavs expect to reduce both temporary employment abroad and unemployment at home; they do not expect to eliminate them.<sup>51</sup>

#### IV. REGIONAL PROBLEMS AND POLICIES

Disparities in the levels of economic development between the different republics and autonomous provinces continued to be recog-

<sup>49</sup> The OECD cites a 1973 resolution of the League of Communists which notes that "emigration has reached the permissible limits and policies should be formulated for the gradual return of the emigrants." See OECD, *Yugoslavia, 1973*, p. 42.

<sup>50</sup> The importance of the secondary economy in employment creation is discussed in the "Resolution on Common Policy of Yugoslavia's Economic and Social Development in 1976," translated for the IMF from *Službeni List*, No. 66, December 26, 1975, p. 48.

<sup>51</sup> The aims of the "Fundamentals of Common Policy for Long-term Development \* \* \* until 1985" are listed in "Resolution on Common Policy of Yugoslavia's Economic and Social Development in 1976," p. 10.

nized as a major political, economic and social issue during the 1971-75 plan period.<sup>52</sup> According to the plan, growth rates in the recognized less developed areas—Bosnia-Herzegovina, Macedonia, Montenegro, and Kosovo—were to average 25 percent higher than the growth rate in the country as a whole so that these disparities might be reduced somewhat. Some progress towards the achievement of this goal was made in Kosovo where the 1971-75 average growth rate was about 37 percent greater than the national average, and in Bosnia-Herzegovina and Macedonia where the 1971-75 average growth rate was about 6 percent greater than the national average. No progress was achieved in Montenegro where the growth rate was only about 75 percent of the national average.<sup>53</sup> Despite higher growth rates in three of the less developed areas, differentials in per capita income levels did not decline noticeably because of more rapid population growth in these areas. Per capita social product remained roughly the same fraction of the national average in Bosnia-Herzegovina, Macedonia, and Kosovo, and actually declined as a fraction of the national average in Montenegro.<sup>54</sup> However, these results are important because they represent a possible reversal in the trend of increasing regional differences which characterized the 1961-71 period.

The 1976-80 plan reaffirms the commitment to reducing regional differentials and once again calls for higher growth rates in less developed areas, with Kosovo, the least developed area, slated to grow most in excess of the average growth rate. Target growth rates in the less developed regions are to be 20 to 25 percent above the national average while the corresponding figure for Kosovo is 60 percent. The realization of these growth targets presupposes an increase in the share of the less developed regions in total investment. According to the plan, this increase is to be realized primarily on the basis of savings generated in the less developed areas, augmented by the continued availability of investment funds from the federal fund for accelerating development in less developed areas, by the availability of funds from the pooling of enterprise efforts across regional boundaries, and by the planned allocation of the largest share of IBRD and other foreign credits to the less developed regions.

The federal regional development fund will continue to operate in the manner which characterized the 1971-75 period. The fund will collect a targetted 1.97 percent of gross product originating in the socialist enterprise sector by a compulsory enterprise loan system. Enterprise loans to the fund will continue to earn 4 percent interest with a three-year grace period and a fifteen-year maturity. The funds collected in this manner will in turn be dispersed to the less developed areas as preferential credits (with lower interest rates and longer repayment period than would otherwise be available), to be allocated by them in accordance with the goals of their own 1976-80 plans. Because these regional plans mirror the aggregate plan, the sectoral priorities, of the latter are likely to guide the sectoral distribution of,

<sup>52</sup> For a broad discussion of some of the economic reasons for these disparities, see IBRD, Yugoslavia, *op. cit.*, chapter 8.

<sup>53</sup> These calculations were made using data contained in Tables 204-1, *Statistički Godišnjak*, 1976.

<sup>54</sup> The following figures show the ratio between republican per capita real social product and the national average in 1971 and 1975: Bosnia-Herzegovina: .667, .662; Montenegro: .742, .696; Macedonia: .688, .676; and Kosovo: .329, .331. These figures are calculated from data in Tables 202-2 and 204-1 in *Statistički Godišnjak*, 1976.

the regional development loans made available in this way. The planned division of the federal funds among the less developed areas reflects the special attention to be accorded to Kosovo. An earmarked 0.20 percent of gross enterprise product made available to the federal fund is to be set aside in advance for Kosovo, and the remaining 1.77 percent is to be distributed according to the 1971-75 regional shares, estimated by the IBRD to be the following: Bosnia-Herzegovina 34 percent; Kosovo 30 percent; Macedonia 24 percent; and Montenegro 12 percent.<sup>55</sup>

As in the 1971-75 period, additional federal funds will be channeled to the less developed areas by federal budgetary support to the governments of these areas for maintaining a higher level of social services (mainly health and education) than they could from their own resources. During the 1972-75 period, an average of about 6.8 percent of total federal budgetary expenditures was allocated for this purpose.<sup>56</sup> In the allocation of budgetary grants of this nature during the 1976-80 period, Kosovo is to be accorded special priority. In addition, Kosovo is also to be favored by the introduction of special legislative measures designed specifically to stimulate the flow of investment and other credits to this area. For example, the plan calls for a new law to ensure the availability of supplementary working capital for enterprises in Kosovo.

The basic principle of regional development strategy in the 1976-80 plan is the same principle which characterized earlier efforts, namely the transfer of resources to foster investment in the less developed areas. Therefore, some of the general weaknesses in the regional development strategy of the past will probably reappear in the coming years. These weaknesses include: excessive reliance on investment transfer and insufficient stimulation of skilled labor and technical assistance transfers to the less developed regions; and failure to provide measures encouraging the optimal interregional and intra-regional allocation of investment funds among competing projects. As regards the first of these problem areas, the Yugoslavs hope that the concentration and pooling of enterprise efforts across regional boundaries will encourage the requisite interregional labor mobility, and in particular, will foster the needed transfer of skilled labor and technical help to the less developed areas. Only time will tell whether these desired and necessary developments will occur.

## V. AGRICULTURAL PERFORMANCE AND POLICIES

In 1975, total agricultural production accounted for about 16 percent of social product and employed approximately 40 percent of the economically active population.<sup>57</sup> These figures alone attest to the importance of agriculture in Yugoslavia's economy, and that importance has been reaffirmed by the identification of agriculture as a priority development sector for the 1976-80 period.

Probably the single most significant feature of the Yugoslav agricultural situation is its dualistic nature. In 1975, socialized agriculture, comprised of large, agro-industrial enterprises operating on

<sup>55</sup> IBRD, *Yugoslavia*, op. cit., p. 204.

<sup>56</sup> This figure is based on budget data presented in OECD, *Yugoslavia*, 1976, p. 24:

<sup>57</sup> "Analytical Basis . . . 1976-80 plan," op. cit., Tables 2 and 7.

the principles of social ownership and self-management, accounted for about 15 percent of the cultivated land, 7 percent of the active population in agriculture, 10 percent of the agricultural livestock and 25 percent of real agricultural gross social product.<sup>58</sup> The remaining land, labor, livestock and output were found on the small, family-owned and operated peasant farms which constituted the private agricultural sector. Besides being distinguished by size and method of organization, the two sectors can also be distinguished by differences in labor productivity—productivity in the private sector is estimated to be only about one-fourth of that in the social sector<sup>59</sup>—and by differences in market behavior—most of social sector output is sold on the market while much of private output goes into the own consumption of the family household. Relations between the two sectors can be viewed as largely complementary: the social sector produces the bulk of industrial crops and grains, while the private sector produces most of the vegetables, fruits and meat products that supply the population with food.

During the 1971–75 period, as in earlier periods, agricultural output grew much more rapidly in the social sector than in the private sector. The respective growth rates were 6 percent in the social sector and 2.3 percent in the private sector. Differential growth rates are projected for the 1976–80 period as well, when social sector output is targetted to grow at 8 percent and private sector output at 3.1 percent.<sup>60</sup> These projected growth rates are high by historical standards and will be difficult to realize as the Yugoslavs are aware. For the social sector the goals can only be achieved by more intensive production techniques and changes in production patterns, since there are severe limits to increases in social sector land availability. In the peasant sector relatively low yields and low productivity leave much room for more rapid growth if the development potential can be tapped by a proper set of economic policy measures.

The private sector will be of particular importance in the coming plan period because of the continued emphasis on the development of livestock breeding to achieve both domestic diet and export goals. According to plan, national diets are to shift away from cereals toward higher quality foodstuffs, especially meat. Outputs of meat are also slated to provide considerable quantities for export. As the 1972–73 experience with impending meat shortages and rising meat prices suggests, export and domestic diet goals for meat products can conflict, given current levels of livestock production. Therefore, if these goals are to be realized simultaneously, significant increases in livestock breeding at a planned rate of 4 percent per year must be achieved. Since the bulk of livestock is located in the private sector, special attention must be focused on encouraging increases in the productivity of livestock breeding on private farms. Among the techniques suggested for stimulating output and productivity growth in meat as well as in other products on private farms are the following: land rationali-

<sup>58</sup> Calculations from Table 7 of "Analytical Basis \* \* \* 1976-80 plan," and Tables 106-9 and 108-2 of Stasticki, Godisnjak, 1976.

<sup>59</sup> This productivity estimate is based on the 1975 figures discussed here. A 1973 study estimated that private agricultural productivity was only one-fifth of social sector agricultural productivity in 1969/1970. Therefore, some reduction in the productivity differential seems to have occurred in recent years. See OECD, "Agricultural Policy in Yugoslavia," 1973, p. 26.

<sup>60</sup> "Analytical Basis of 1976-80 plan," *op. cit.*, Table 4.

zation schemes to reduce the fragmentation of peasant land holdings; tax and credit policy measures to promote co-operation of private farmers both among themselves and with social sector agricultural enterprises; greater use of mineral fertilizers and tractors; the development of long-term contracts to guarantee the selling prices of livestock products when they reach market channels; and the extension of health and pension insurance and vocational training to private farmers to stem the outflow of productive labor. Special emphasis is placed on the need for greater co-operation between private and social sector farms in the plan, but if recent years are a guide, then not much headway in this direction is likely.

Within agriculture as a whole, growth targets are aimed at reducing all food imports except those of goods that cannot be rationally produced at home. Outputs of wheat and maize are to increase to cover current domestic consumption and to provide domestic reserves and surpluses for export. In the past, below average harvests in these crops necessitated grain imports, sometimes in significant amounts, and the plan hopes to preclude the necessity of such imports in the future. To eliminate the need for sugar and food oil imports, a substantial increase in sugar beets and sunflowers is slated, and in the food industry, special attention is to be accorded to the production of sugar and oil for domestic use.

In pursuing overall and specific crop growth targets, the Yugoslavs intend to rely on many traditional agricultural promotion policies and to introduce some new policies as well. Traditional policies will include the following:

1. The continuation of a protective pricing system which establishes guaranteed prices for field crops and livestock products and minimum prices for basic foodstuffs;
2. In conjunction with the pricing system, the maintenance of reserves of basic agricultural and food products;
3. A premium system whereby farmers receive bonus or subsidy payments for the production of certain basic products, including livestock products; (premium payments are to be earmarked for investment expenditures);
4. The use of preferential rediscount credits to finance the production and inventories of basic agricultural goods; and
5. The allocation of a share of government investment funds to agriculture, mainly to finance irrigation and other large projects.

New policies will include greater use of tariff protection to prevent unnecessary food imports and the development of an extensive system of long-term contracts between large buyers of agricultural products, such as industrial centers, tourist resorts, and towns, and suppliers. It is hoped that this system will build greater certainty and stability into the functioning of domestic food markets.

In conclusion, it seems that the biggest obstacles facing the realization of agricultural targets lie in the private sector. Some of these obstacles stem from the important regional dimension of private sector agriculture. The bulk of social sector output—about 80 percent in 1974 and 1975—comes from the developed regions. In the less developed areas, where the social sector has had trouble implanting itself, the private farms are particularly backward, with a much lower

utilization of tractors and fertilizers than that observed in the more developed areas. Private farms in the less developed regions, like those in the more developed regions, are also hampered by smallness of size—due partly to legal limitations and partly to rapid population growth in some areas—an adverse age structure of the agricultural population, a relative paucity of investment resources and limited access to credit facilities, and the out-migration of skilled labor. The Yugoslav government hopes to find the solution to many of these problems by the extension of co-operation among private farmers and between private farmers and social sector enterprises. So far, however, private farmers have been reluctant to pursue co-operation in either direction, despite some obvious economic incentives, such as preferential access to credit. Therefore, greater incentives will be required if such co-operation is to develop according to the planned pace.

## VI. MACROECONOMIC PERFORMANCE

### *1. Sources of Inflationary Pressure*

A rapid and accelerating rate of inflation was one of the most persistent problems plaguing Yugoslav economic performance during the 1971–1975 period. As the data in Table 8 reveal, inflation in industrial producer prices (wholesale prices), retail prices, and the cost of living index was substantial, particularly between 1973 and 1975, when domestic and foreign factors combined to push prices up. The magnitude of the inflation problem led government authorities to conclude that “inflation is enemy number one of our socialist society and the struggle against it is a major political problem.”<sup>61</sup>

The basic strategy behind the control of inflation underwent an important change in 1973. Between 1971 and mid-1973, the government tried to reduce inflationary pressure by restrictive policy measures. In mid-1973, after two years of disappointing real growth rates and only minor reductions in inflation rates, the government switched to an expansionary policy stance, motivated by the belief that only rapid growth could end the inflationary spiral by increasing capacity, labor productivity, and the real standard of living, thereby slowing growth in wages and other production costs which were thought by many to be the cause of inflation. Under this new policy guideline, real growth rates picked up markedly in 1974, as the data in Table 8 illustrate. The revival in economic activity in turn generated additional domestic demand pressures, which in conjunction with worldwide inflation in key raw material, fuel and food prices, gave rise to the highest inflation rate since 1965.

The 1971–75 experience attests to the tradeoff between real growth and price stability which seems to have characterized the Yugoslav economy since the 1965 reform. To understand the causes of this tradeoff, it is necessary to examine the role of the external environment, the economic system and economic policy in the inflationary process. Because of the critical impact of foreign markets on the 1973–75 inflation, it seems wise to begin with the external environ-

<sup>61</sup> B. Šefer, Vice-President of the Federal Government, made this comment which was quoted in Nin, January 1, 1975, p. 5, and cited in ABSEES, October, 1975.

ment.<sup>62</sup> As the data in Table 8 indicate, in 1973 and 1974, import and export prices increased sharply, mainly under the pressure of rising raw material and fuel prices on world markets. Foreign price increases fed directly into Yugoslavia, facilitated by a system of price controls which allowed domestic producers to increase their prices on the basis of two criteria: increases in world prices of similar commodities and/or increases in production costs, stemming from price increases in domestic and imported inputs.

Of course, import and export induced price increases in certain sectors of production need not have fostered an increase in the aggregate rate of inflation, provided prices in other sectors either fell or failed to rise as fast as they would have otherwise. Given sectoral nominal wage and price rigidities and the government's commitment to stimulate aggregate demand in 1974, however, this condition was not satisfied.<sup>63</sup> Consequently, foreign price increases caused an increase in the overall inflation rate. In fact, calculations based on the 1972 input-output table indicate that not much less than one-half of the inflation in industrial producer prices in Yugoslavia during 1974 was due to the simple pass-through of foreign price increases to domestic price increases.<sup>64</sup>

Foreign economic developments also contributed indirectly to inflationary pressures in 1972, through the effects of the 1971 dinar devaluation on wages and prices. Input-output calculations for that year indicate that the devaluation of the dinar by about 11.8 percent relative to the dollar caused a domestic price rise of about 9 percent.<sup>65</sup> A further devaluation of about 8 percent in October 1974, undoubtedly generated additional inflationary pressure in that year and in the succeeding one as well. However, it is important to note that inflation due to the effects of devaluation on the domestic prices of imports and exports is in fact the product of the excess demand pressures which led to a deterioration in the current account and resultant pressures for the devaluation in the first place. Therefore, inflation caused by devaluation is to be distinguished from inflation caused solely by price increases in world markets, such as those which occurred between 1973 and 1975.

Domestic inflationary pressures continued to be significant in the 1971-75 period as they had been during most of the preceding plan period. Because of the persistence of the inflation problem, it is important to understand the many factors thought to contribute to it. Two main schools of thought about the causes of inflation in Yugoslavia exist. According to one theory, inflation is the consequence of excess demand in product and labor markets generated by the "over-investment" of government and enterprises and fueled by an excessively expansionary monetary policy. A second theory, which has become increasingly popular in Yugoslavia in recent years, focuses

<sup>62</sup> For a full discussion of the impact of external economic conditions on Yugoslav macroeconomic performance between 1973 and 1975, see the paper by Z. Fallenbuchl, E. Neuberger, and L. D'Andrea Tyson appearing in this volume.

<sup>63</sup> For a broader discussion of the sources and consequences of wage and price rigidities in Yugoslavia, see E. Neuberger and L. D'Andrea Tyson, "Can a Rise in Import Prices be Inflationary and Deflationary: The Case of Yugoslavia," Stony Brook Economics Department Working Paper.

<sup>64</sup> The input-output calculations assume that increases in import prices of intermediate and final products are directly passed through to domestic producer prices. The calculations are reported by Sekulić and Babić in "Uvozna Zavisnost Jugoslavenske Privrede i Efekti Povećanja Uvoznih Cena," *Ekonomski Pregled*, Nos. 5-6, 1975, pp. 347-365.

<sup>65</sup> OECD, Yugoslavia, op. cit., 1973, p. 18.

TABLE 8.—INDICATORS OF MACROECONOMIC PERFORMANCE, 1971-76

	1971	1972	1973	1974	1975	1976
Annual rates of growth (percent):						
Real social product <sup>1</sup> -----	8.1	4.3	4.9	8.5	3.3	24.0
Nonagricultural production <sup>2</sup> -----	8.2	6.2	3.9	10.0	6.2	0
Industrial production <sup>3</sup> -----	10.3	8.1	5.8	10.9	5.4	3.8
Agricultural production <sup>4</sup> -----	6.9	-1.6	7.1	6.1	-2.5	4.6
Money supply <sup>7</sup> -----	14.9	42.3	36.7	26.1	32.0	38.7
Industrial producer prices <sup>5</sup> -----	14.8	9.7	13.2	29.9	22.0	7.2
Agricultural producer prices <sup>6</sup> -----	25.0	24.0	24.2	14.3	13.6	18.8
Retail prices <sup>8</sup> -----	15.0	15.2	18.9	25.4	26.5	10.2
Cost of living <sup>9</sup> -----	15.7	16.9	20.3	20.5	24.0	13.3
Import prices <sup>10</sup> -----	3.8	7.4	17.2	47.1	5.0	
Export prices <sup>10</sup> -----	5.3	5.0	20.6	31.6	9.0	

<sup>1</sup> Growth rates calculated from data in table 106-9 Statistički Godišnjak, 1976.

<sup>2</sup> Provisional estimate.

<sup>3</sup> Figures calculated from data in various issues of Indeks; 1976 is a January-June estimate of growth over same period of previous year.

<sup>4</sup> Figures calculated from data in various issues of Indeks.

<sup>5</sup> January-September estimate of growth over same period of previous year based on data in IMF, International Financial Statistics, February 1977, pp. 390-391.

<sup>6</sup> Figures calculated from data in table F, appendix, OECD, Yugoslavia, 1976. 1976 figure is provisional estimate.

<sup>7</sup> Figures calculated from data in table J, appendix, OECD, Yugoslavia, 1976. 1976 figure is January-September estimate of growth over same period of previous year.

<sup>8</sup> 1971-75 annual growth rates calculated from data in tables 122-2-122-6, Statistički Godišnjak, 1976.

<sup>9</sup> Rate of growth January-July 1976 over same period of previous year; figures calculated from data in Indeks, August 1976, p. 34.

<sup>10</sup> Figures calculated from data in tables 114-3 and 114-4, Statistički Godišnjak, 1976.

on inflationary wage increases as the primary source of domestic inflation. In its most simplistic form, this theory is similar to the wage-push hypothesis. According to this hypothesis, nominal wage increases in excess of productivity increases cause production costs to rise, and this in turn causes prices to rise as long as some form of cost markup pricing prevails.

Anecdotal evidence about the behavior of some Yugoslav firms is not inconsistent with the model of enterprise price determination on which the wage push hypothesis depends. Many firms apparently set a fixed minimum monthly income for workers and include labor costs evaluated at this income in production costs. Prices in turn are set by applying a markup to total intraenterprise transfer prices which are themselves based on material inputs and fixed labor incomes in each production section. If these rules are followed, then excessive increases in fixed nominal worker incomes will lead to corresponding increases in producer prices.

One complication arises, however, because the one-to-one relationship between labor income (wage) increases and price increases can be disturbed by variations in enterprise savings or retained net income. It is at least theoretically possible for enterprise members to finance an excessive nominal wage increase by reducing the share of savings in total enterprise net income, in which case the wage increase need have no impact on producer prices. For example, the large nominal wage hikes which occurred in the late 1960's and early 1970's may have been at least partially financed by the reduction in enterprise savings rates which took place during those years. On the other hand, Yugoslav economists and policy-makers who adhere to the wage-push idea argue that enterprises are reluctant to sacrifice savings and investment funds. Therefore, they are more likely to raise selling prices in an attempt to earn higher net income per worker than to sacrifice savings targets to meet worker requests for higher earnings. Some observers have even argued that on occasion, as in 1974, it is

enterprise efforts to increase internal funds that has led directly to price markups.<sup>66</sup> Implicit in this view is a kind of profits-push hypothesis applied to the self-managed enterprise.

Econometric evidence on price determination in Yugoslavia suggests that both demand and cost factors have contributed to inflation. In recent price equations estimated by Popov, Mencinger and Tyson,<sup>67</sup> aggregate demand conditions and wage and raw material production costs appear as significant determinants of the increases in retail and producer prices for industrial goods. Moreover, the econometric results reveal that the elasticity of price increases with respect to unit labor costs is usually less than one, indicating that increases in labor costs do not lead to offsetting increases in prices. This result is consistent with the evidence on falling enterprise savings rates through 1971, but might prove inconsistent with new econometric estimation based on the period of rising savings rates since 1972. The econometric evidence also indicates that the independent influence of aggregate demand on price increases is small; the major effects of demand pressure are felt through increases in factor costs.

The evidence discussed here suggests that the majority of industrial commodities in Yugoslavia have what are called "administered" prices,<sup>68</sup> set on the basis of a markup over production costs, the size of which is influenced by the state of aggregate demand. A similar conclusion applies to the prices of services which are largely cost-determined. Some commodities, however, are more appropriately viewed as having "auction" prices set on the basis of supply and demand. Important among such commodities are agricultural goods, whose prices fluctuate in response to harvest conditions within the limitations set by the price controls discussed earlier, and major tradeable goods, such as raw materials, whose prices are heavily influenced by world market developments. Because of the greater sensitivity of auction prices to demand conditions and because of a system of price controls in Yugoslavia that has impinged more frequently on prices of food, energy and raw materials, the cost-price inflationary spiral has been most severe in processing industries and services.

The distinction between administered and auction prices partly explains the severe inflationary impact of the 1973-75 world inflation in raw material and fuel prices. Auction prices rose as a result of world market conditions. These price increases meant major production cost increases and consequent price increases for commodities whose prices were set administratively. From the point of view of economic policy, it is important to note that price increases in administered markets would have occurred even if the government had acted to reduce aggregate demand within politically acceptable limits. In other words, given administered pricing rules in a variety of markets, price increases in certain key markets were destined to cause an in-

<sup>66</sup> The OECD argues that in 1974, the combination of accelerating wages and tightening credit conditions on the one hand and pent-up investment demand and an investment conducive policy stance on the other favored aggressive price fixing by enterprises. See OECD, *Yugoslavia*, 1975, p. 27.

<sup>67</sup> S. Popov, "Osnovni faktori kretanja cena proizvođača industrijskih proizvoda u periodu, 1962-1970," *Ekonomist* 2, 1972; J. Mencinger, "A Quarterly Macroeconomic Model of the Yugoslava Economy," *op. cit.*, chapter 3; and L. D'Andrea Tyson, "The Yugoslav Inflation: Some Competing Hypotheses," forthcoming in *Journal of Comparative Economics* (June 1977).

<sup>68</sup> This term is due to W. Nordhaus in "Inflation Theory and Policy," *American Economic Review, Papers and Proceedings*, May, 1976, pp. 59-65.

crease in the overall price level which could have been avoided only at the cost of major reductions in output and employment.

The distinction between administered and auction markets also bears on a popular argument that inflation in Yugoslavia is caused by structural shortages in crucial raw materials and food. For shortages of this type to lead to overall inflationary pressure, prices in other sectors must be inflexible, and the existence of administered prices in these sectors will provide the needed inflexibility. As long as prices are administratively set in certain markets, excess demand in other markets can cause aggregate inflation, even when aggregate demand is not excessive, at least as measured by overall indicators of capacity utilization, unemployment and inventories. Inflation under these circumstances is the consequence of excess demand in certain markets and the downward rigidity of the labor and material production costs on which administered prices in other markets depend.

The importance of labor costs in the determination of administered prices suggests that nominal wage changes play a crucial role in the inflationary process. Therefore, it is necessary to identify the factors which influence the direction and magnitude of these changes. According to existing anecdotal evidence, the most important factors include changes in the expected rate of inflation, changes in actual or trend labor productivity, and changes in enterprise net income. The first two of these factors have been shown to exercise a significant impact on nominal wage growth in aggregate wage equations estimated by Mencinger and Tyson.<sup>69</sup>

There is some controversy over whether labor market conditions exercise an independent influence on wage changes. Because workers in each self-managed firm are free to make their own wage decisions (within the confines of the incomes policy discussed below) employed workers in each firm and unemployed workers may be viewed as members of non-competing labor groups. In this case, even if labor of comparable training and ability is available in the unemployed pool or in other enterprises, an individual firm will not reduce its wage to the lowest reservation wage of potential job applicants be they employed or not. On the other hand, if the enterprise wage falls short of the reservation wage of available labor, then some adjustment will be necessary, if the enterprise is trying to attract additional workers. If all enterprises are competing for scarce labor, then aggregate excess demand for labor will clearly influence the rate of growth of wages in each enterprise and the aggregate rate of growth of wages. Therefore, even in an economy of self-managed enterprises, the aggregate rate of wage inflation can be influenced by labor market conditions at least when a state of excess labor demand exists. However, this conclusion seems to be irrelevant to the Yugoslav case during the post 1965 period since it is impossible to reconcile the existence of large surpluses of unemployed workers with the assumption of excess labor demand.

As it turns out, aggregate nominal wage growth can be influenced by labor market conditions, even when the aggregate labor market is in macro equilibrium or in a state of overall excess supply, provided wages respond asymmetrically to excess supply and excess demand on

<sup>69</sup> See footnote 67 for references.

individual labor markets. Significantly, an asymmetrical response is particularly likely in an economy of self-managed firms since those enterprises operating in markets of excess demand respond by raising their wages to attract scarce labor and those firms operating in markets of excess supply continue to set wages according to individual negotiation, irrespective of the availability of unemployed workers. Under these conditions, even if there is macro equilibrium, the economy-wide rate of wage inflation will be influenced by the tightening of demand on individual labor markets. This conclusion probably has some relevance for Yugoslavia, given the apparent unevenness of labor market conditions among republics. If the economy enters an expansionary phase, then individual labor markets, such as those for skilled labor in Croatia and Slovenia, may quickly find themselves in conditions of excess demand. As labor market conditions tighten, wages will rise, and this increase, combined with rising or constant wages in labor markets characterized by persistent excess supply, will lead to aggregate wage inflation. This mechanism may be behind the apparent impact of labor market conditions on the overall rate of inflation found in recent econometric work of Mencinger and Tyson.<sup>70</sup>

The asymmetrical response of wages to conditions of excess supply and excess demand imparts a significant inflationary bias to the Yugoslav economy. Because wages fail to adjust rapidly or completely to slackening labor demand, slowdowns in economic activity do not result in a major reduction in labor cost pressures on prices. In fact, Horvat and Mencinger have argued that these pressures are actually growth. According to this view, the only way the government can counter cost induced inflation is by stimulating growth and labor productivity, thereby offsetting the effects of nominal wage growth on unit labor costs.<sup>71</sup> This view lends support to the 1973 reversal from a "stop" to a "go" policy as a means to contain inflationary pressure.

So far the discussion has identified increases in labor productivity and in the expected rate of inflation and the tightening of macro or micro labor markets as determinants of wage increases in Yugoslavia. These findings are not inconsistent with a demand pull theory of the Yugoslav inflation, provided allowance is made for the existence of asymmetries in wage responses to excess supply and excess demand and for administered pricing rules. What has been demonstrated is that both product and labor markets impart a significant inflationary bias to the economy because of downward rigidities in corresponding prices and wages.

<sup>70</sup> Mencinger's measure of labor market conditions is the social sector unemployment rate adjusted for the number of job vacancies and defined as  $\frac{[(\text{vacancies} - \text{jobseekers}) / (\text{vacancies} + \text{employment})] - 3.6 \text{ percent}}{3.6 \text{ percent}}$ , where 3.6 percent is taken by Mencinger to be a measure of the minimum attainable structural unemployment rate. Tyson uses the inverse of the social sector unemployment rate  $(\text{jobseekers} / \text{jobseekers} + \text{employment})$ . See footnote 67 for references. Mencinger ascribes the relationship between unemployment and the rate of growth of wages to the fact that party and trade union discipline of enterprise wage decisions tightens or loosens as the aggregate unemployment rate increases or decreases.

<sup>71</sup> Mencinger's quarterly model supports this conclusion: using this model, expansionary fiscal policy is demonstrated to reduce rather than to increase the rate of inflation of producer prices. See Mencinger, "A Quarterly Macroeconomic Model," *op. cit.*, chapter 10. Horvat argues that "there is less pressure on prices in an expansionary phase than in a contractionary one, since unit labor costs increase during a recession due to the lowering use of capacity and due to personal incomes which follow cycles in production but with reduced amplitude." To support this view, he reports that the correlation between the rate of growth of prices and the rate of growth of nonagricultural production is  $-.62$ . See "Kratkoročna Nestabilnost i Dugoročna Tendencije Razvoja Jugoslavenske Privrede," *Ekonomist*, 1-2, 1974.

There is at least one popular theory about wage behavior in Yugoslavia which explicitly identifies wage increases as the cause of inflation. This theory introduces a "wage-chase" model of inflation whereby worker efforts to maintain target interenterprise or intersectoral wage differentials generate aggregate wage and price inflation. According to this theory, wages rise in high wage sectors in response to market conditions, such as increases in worker productivity or enterprise income earnings. Wage increases of this type are market determined and therefore respond to rather than cause increases in product selling prices. In low wage industries, wages rise as workers attempt to catch up or compete with incomes received by workers in high wage firms. Wage increases of this type, which are not offset by labor productivity growth, necessitate an increase in prices as long as enterprise savings rates are to be maintained. Constant prices in high wage industries and rising prices in low wage industries then generate aggregate price inflation.

The model of wage competition discussed here bears a close resemblance to the so-called Scandinavian model of inflation in small open economies. According to this model, wage increases in export sectors are determined by price increases for exports set in world markets and by productivity increases. Wage increases in domestic or nontradable sectors are determined by worker efforts to match wage increases granted in the export sectors. Price increases in domestic sectors therefore depend on the relationship between realized productivity increases and these exogenously given wage increases. The Yugoslav model of wage competition is nothing more than the Scandinavian model transplanted to a domestic setting. Moreover, to the extent that high wage sectors in Yugoslavia are export sectors and low wage sectors are nontradeable goods sectors, there is no difference between the two models.

Several Yugoslav economists, including Bajt, Horvat, and Popov,<sup>72</sup> have studied the behavior of intersectoral wage differentials to determine the validity of the wage competition model of inflation. Their findings, while not conclusive, are consistent with the model's predictions. There appears to be a distinct countercyclical pattern to intersectoral wage differentials which rise when the economy is in a downturn and fall when the economy is growing rapidly. This pattern is attributed to the fact that high wage industries are able to maintain or even increase nominal wage growth during a downturn because of the special characteristics of their markets or because of their ability to shift enterprise income from savings to wages. Low wage firms are unable to raise wages as fast because of market pressures and inadequate savings, and consequently wage differentials increase. During an upturn, low wage firms attempt to make up for lost ground by marking up prices to finance target wage increases, and wage differentials decline. A second set of findings documented by Popov, Vanek and Jovicic, and others,<sup>73</sup> provides

<sup>72</sup> See, for example, S. Popov, *Utičaj Ličnih Dohodaka na Kretanje Cena* (Belgrade: Institut Ekonomskih Nauka, 1972) and A. Bajt "Patterns of Instability in Socialist Countries," in "International Aspects of Stabilization Policies," edited by Ando, Herring and Marston (Boston: Federal Reserve Bank of Boston, 1975).

<sup>73</sup> S. Popov, *Utičaj Ličnih Dohodaka*, op. cit. and J. Vanek and M. Jovicic, "Capital Market and Income Distribution in Yugoslavia," op. cit.

evidence which supports this explanation of counter-cyclical wage differentials. These findings indicate that high wage industries tend to be those which have the greatest monopoly power, as measured by concentration figures, and those which have the highest degree of capital intensity, as measured by capital labor ratios. Low wage industries, in contrast, tend to be found in more competitive market situations and tend to be more labor intensive. If this distinction is true, then it explains why high wage industries can maintain target wage growth during economic slowdowns either because of their protected market conditions or because they can redistribute returns from capital, their relatively abundant factor, to labor, their relatively scarce factor.

Low wage firms, which also tend to be those with low savings rates, do not have sufficient capital returns to maintain similar wage increases, and so they fall behind. As soon as demand picks up and market conditions allow, however, these firms attempt to raise selling prices to cover target wage growth.

The presence of wage competition pressures on prices during the 1971-75 period is suggested by the figures presented in Table 9. The table includes rates of growth of labor productivity and rates of growth of wages for a selected group of Yugoslav industrial sectors ranked according to their relative position in the wage scale in 1971 and 1975. The first thing to note is that there are no major changes in the ranking of sectors between the two years. This implies that nominal wage growth was about equal for all sectors over the period, and the data support this implication. The data also indicate that, if anything, labor productivity growth was higher in the low wage sectors than in the high wage sectors. What then accounts for the growth of wages in high wage sectors which is assumed to set the target growth of wages in low wage sectors? The findings of Popov and others suggest that the rate of growth of profits, the return to capital and/or monopoly position, determined the rate of growth of

TABLE 9.—WAGE AND LABOR PRODUCTIVITY GROWTH RATES BY SECTOR

	Nominal wage rank in		1971-75 average annual growth in	
	1971	1975	Nominal wages	Labor productivity
<b>High wage sectors:</b>				
Electrical energy.....	2	2	20.1	4.1
Coal.....	8	4	24.9	4.5
Oil.....	1	1	21.6	- .7
Ferrous metallurgy.....	5	5	21.6	2.5
Nonferrous metallurgy.....	7	8	21.7	2.4
Shipbuilding.....	3	3	18.7	-1.1
Chemicals.....	6	7	22.3	.7
Printing.....	4	6	19.1	- .5
<b>Low wage sectors:</b>				
Nonmetallic minerals.....	14	14	21.2	2.1
Metals and metal products.....	9	10	21.3	4.3
Electrical equipment.....	12	11	21.5	4.0
Construction materials.....	11	13	19.0	2.4
Wood.....	15	15	20.6	1.2
Paper.....	10	9	23.1	2.2
Textiles.....	17	17	22.0	1.9
Leather.....	16	16	20.5	- .6
Rubber.....	13	12	22.8	3.9

Source: Figures calculated from data in table 123-3, Statistički Godišnjak, 1976.

wages for high wage sectors. At least one additional factor may have been at work, however, and this is the influence of world markets. Of the eight high wage sectors, five—coal, oil, ferrous and non-ferrous metallurgy, and chemicals—undoubtedly benefited from the world inflation in raw material and fuel prices. Wage increases in these sectors were clearly encouraged by price developments in world markets. Applying a Scandinavian type model, it follows that price increases in other sectors were then partly determined by the relationship between realized productivity increases and these exogenously given wage increases.

## *2. Policy Responses to Inflation*

The wage chase theory of inflation was one of the factors encouraging the adoption of an "incomes policy" to guide enterprise wage decisions. Other factors working in this direction were dissatisfaction with what were considered to be excessive interenterprise wage differentials and anxiety over declining enterprise savings rates. The form of the incomes policy actually adopted reflected these official concerns. Between 1971 and 1974, annual social agreements on enterprise incomes were concluded in each republic. These agreements related the total wages an enterprise could pay out and hence total enterprise savings to enterprise net income per "standardized" worker.<sup>74</sup> In general, enterprises with higher than average net income per standardized worker were allowed to pay out higher wages per worker but they were also constrained to save at a higher rate out of enterprise income.<sup>75</sup> In addition, most of the annual incomes policy agreements set allowable maximum and minimum personal incomes for each region.

Although incomes policies along these lines were adopted specifically to reduce relative wage differentials rather than to control the level or the rate of growth of aggregate labor payments, they probably had some success in moderating wage growth by cutting into the inflationary effects of the wage chase mechanism and by setting maximum allowable incomes. Wage growth was undoubtedly also moderated by the adoption of a six-month wage freeze between December 1972 and June 1973. The freeze applied to all government and public service workers and to workers in some trade branches and covered approximately 30 percent of the labor force in the social sector. The combined effects of the freeze and the incomes policies can be seen in the reduced rates of growth of nominal wages in 1972 and 1973. However, in 1974, and through mid-1975, nominal wage growth accelerated markedly, indicating that the incomes policy mechanism was not able to thwart worker efforts to reverse the stagnation of real wages which had occurred during the two preceding years. The failure of the existing policy led to the introduction of a new kind of incomes agreement in 1975, which did not embody any specific formula for the distribution of enterprise income but instead aimed to keep the rate of growth of wages within the limits of the rate of growth of

<sup>74</sup> The standardized work force of an enterprise was computed on the basis of skill coefficients defined to reduce each skill category to equivalent units of unskilled workers.

<sup>75</sup> In fact, savings routes were higher in enterprises with above average net income even before the introduction of the incomes policy, so that the agreements acted to strengthen rather than to counteract existing trends. Indeed, the incomes policy schedules relating enterprise income to allowable personal incomes and required savings were framed using historical enterprise data.

labor productivity in each republic. Enterprises with above average productivity growth were directed to allocate larger shares of enterprise income to savings to keep wage growth within the specified limits.<sup>76</sup>

In addition to introducing incomes policy guidelines to stem inflationary pressures, the Yugoslavs also resorted to a rather complicated system of price controls. After allowing free market determination to expand to about 60 percent of industrial producer prices at the end of the sixties, the government reversed the liberalizing trend, and by 1974, about 80 percent of industrial production was subject to some form of price control. Basic food items and services (electricity, transportation and communications, and communal services) remained under control throughout the period. It is important, however, to understand what control meant in the Yugoslav context, especially if the existence of price controls is to be reconciled with the persistence of inflation during the 1971-75 period.

Three different types of price controls can be distinguished. Some prices, such as those for electricity, communal services, and the like, were set by government decision and were subject to the most direct control. Other prices were determined by social agreements in which various market criteria, such as world market conditions and production costs, were considered to warrant acceptable price increases. Prices set by social agreement were subject to the approval of the competent price control authority. In some cases, price increases and their approval were automatic. For example, some domestic prices were related by formula to world market prices, so that a rise in the latter would induce an automatic adjustment in the former.<sup>77</sup>

Automatic formula of this type played an important role in the transmission of inflation from world markets to Yugoslav markets in 1974-75. For other goods, although price increases were not automatic, they were nonetheless likely to occur and to be approved by the competent price supervisory body if warranted by either world market conditions or by increases in production costs. Besides these criteria "development policies" served as a guide to some price control decisions. The importance of development priorities explains why the prices of some basic materials and agricultural products were in general controlled more effectively than the prices of produced or processed goods. Finally, a third set of prices were set on the basis of an "agreement" between buyers and sellers of the commodities involved. Approval of price increases determined in this way was required by the competent price control organization which tended to base its decisions on the same criteria of world market conditions, production costs and development policies.

Price controls of the type discussed here probably did less to reduce the rate of inflation than they did to distort the timing of price increases and the pattern of relative prices. However, available evidence suggests that the controls did not postpone price increases

<sup>76</sup> The principle of relating real personal income growth to realized productivity growth in each republic was reaffirmed by the 1976-80 plan. The plan calls for annual social agreements on worker incomes based on this principle.

<sup>77</sup> As an example of an automatic formula consider the social agreement on prices for non-ferrous metal and products. According to this agreement, domestic prices were set on the basis of average futures prices in selected international markets for the last six months evaluated at official exchange rates, and increased by 2 percent due to differences in buying and selling rates, and by 3 percent due to tariff protection. See I. Karli, "Neki aktuelni problemi sistema i politike cijena," *Ekonomski Pregled*, 8-9, 1974, pp. 603-632.

by more than one quarter.<sup>78</sup> In addition, relative price distortions in the form of repressed inflation in basic commodity prices were largely eliminated by the worldwide inflation of these prices in 1974.

Although the overall price controls probably did not contain inflationary pressure, periodic price freezes in 1971 and 1972, and a more stringent control policy in 1975 undoubtedly had an impact. The 1975 price control resolution, which may provide a clue to future control efforts, called for the price authorities to set prices directly if price increases agreed upon between buyer and seller exceeded permissible limits set by the resolution. The goal of the resolution was to "set prices according to the market but within the limits set by the resolution."<sup>79</sup> It was clear that the limits would be honored by direct administrative price setting, if this directive proved contradictory. A similar implication is contained in the 1976-80 plan which calls for price fixing if prices fail to satisfy plan established criteria.

In the discussion on inflation so far, no mention has been made of the money supply. Yet it is certain that an inflation of the magnitude observed in Yugoslavia in recent years could not have been sustained without large increases in the money supply. That such increases occurred is clear from the data in Table 8. What is not clear is whether these increases caused inflationary pressure or merely served to validate the pressure generated by enterprise efforts to raise prices to meet wage and savings targets. Evidence can be marshalled to support both views. Because of the sensitivity of investment to money market conditions, increases in the rate of growth of the money supply, caused largely by increases in the rate of growth of National Bank credits to business banks, stimulate aggregate demand, thereby generating inflationary pressure on some product and labor markets. The very large increases in the money supply in 1972 and 1973, undoubtedly provided some stimulus to the investment boom and concomitant inflation beginning in mid-1973.

Argument supporting the view that money supply increases validate inflationary pressure tend to refer to the recurrent liquidity crises as the factors forcing the hand of the monetary authorities.<sup>80</sup> According to these arguments, enterprises mark-up wages and prices or undertake excessive investment programs with little regard to market conditions. When they find themselves unable to sell their output at prevailing prices or to cover their investment spending commitments, they do not reduce prices, lay off workers, or cut back their spending plans. Instead, they finance their production and expenditure by bank credit when available and by defaulting on outstanding business debt when necessary. Defaults pass the disequilibrium in one firm onto its suppliers who in turn must finance unplanned increases in their holdings of trade credit by offsetting changes in their assets and liabilities. The usual response is for the unwilling creditor to default on its own outstanding debt or to reduce

<sup>78</sup> As an example of the timing problem, in the first quarter of 1974, 43 price agreements took 77 days for approval and 18 days for administration suggesting a timing delay of no more than one quarter.

<sup>79</sup> "Agreement on the Carrying-Out of Price Policy in 1975" translated from Borba, February 12, 1975, p. 9.

<sup>80</sup> For an example of arguments along this line, see D. Dimitrijević, "Neki finasiki elementi inflacije, kod nas," *Ekonomski Pregled*, 5-6, 1975, pp. 287-298 and L. D'Andrea Tyson, "Liquidity Crises in the Yugoslav Economy," *Soviet Studies*, April 1977.

its own cash reserves. As more and more firms are brought into the default network, the monetary authorities are forced to intervene to reduce the threat of multiple bankruptcy.

This scenario clearly has some applicability to the liquidity crisis of 1969-71, when about 30% of all enterprises were in default and when the volume of interenterprise trade credit increased by a staggering 96%.<sup>81</sup> However, after 1972, due to tighter controls on enterprise financial and investment behavior and more severe penalties for default, the proportions of the illiquidity phenomenon declined, and the pressure on the monetary authorities to validate inflationary wage, price, and expenditure decisions abated. Consequently, for the 1972-75 period, the excessive money supply increases probably tended to add to inflationary pressure rather than to validate pressure arising from enterprise decisions.

Yugoslav policy-makers are cognizant of the stimulative effects which money supply changes have on economic activity, especially investment, and prices, and they have relied on countercyclical monetary policy to alter the state of aggregate demand. Therefore, the large increases in the money supply which occurred in 1972 and 1973, and again in 1976, years in which the authorities were committed to restrictive demand policies, are surprising. However, they can be explained by the institutional peculiarities of the Yugoslav money and credit system. Because of barriers to regional capital mobility and the absence of market clearing interest rates, the National Bank has played a major role in the selective allocation of credits. Throughout much of the 1971-75 period, the Bank established both the quantity of central bank credits and the purposes for which they would be allocated at the beginning of each year. These commitments, once made, could not be easily reversed in response to unanticipated developments on the money market. For example, in 1972 and 1973, the Bank was unable to reduce its discount credits to the business banks sufficiently to offset the unexpected money inflows caused by unanticipated reductions in the balance of payments deficit. Consequently, the money supply grew at rates much in excess of those projected by the Bank when it first established its annual credit policy.

The Yugoslavs realize that selective crediting and restrictive monetary policy in a situation of below equilibrium interest rates are not compatible. Therefore, since 1973, they have discussed reforms to divest the National Bank of its responsibility in selective crediting and to limit its role to aggregate monetary control. Such control is to depend increasingly on open market operations in which the National Bank buys and sells enterprise commercial bills of exchange. According to the proposed reforms, which are described in the 1976-80 plan, self-management agreements among commercial banks are to be the vehicle for the realization of selective crediting goals. These agreements are to be encouraged and guided by the National Bank, and, once negotiated, are to become binding on the commercial banks. At least through the end of 1975, however, the credit reforms were not realized and the selective crediting activity of the National Bank continued to hamper its effectiveness as an instrument of aggregate monetary control. Thus, it is not surprising that once again in 1976,

<sup>81</sup> See L. D'Andrea Tyson, "Liquidity Crises," *op. cit.*

when the balance of payments unexpectedly improved, the rate of growth of the domestic money supply increased sharply.

Fiscal policy, like monetary policy, has been an ineffective countercyclical tool in Yugoslavia for institutional reasons. Because of political limitations on federal expenditure and taxation policy and because of the difficulties of co-ordinating republican and communal expenditure and taxation to achieve a desired aggregate effect, countercyclical fiscal policy is not practicable. With only a few exceptions, such as the use of republican "stabilization taxes" in 1973 to reduce personal incomes and consumption demand, fiscal policy focused on both the size and the composition of taxes and expenditures rather than on their countercyclical effects during the 1971-75 period. In fact, the major fiscal goal of the period was to constrain total taxes and public expenditures to grow less than aggregate social product, while maintaining overall balance in individual budgets. Available evidence indicates that this goal was not realized to any significant degree. Between 1971 and 1974, total expenditures and total revenues of the consolidated budgets grew about 32 percent while nominal social product increased by about 26 percent.<sup>82</sup> In pursuing its fiscal goals, the government made little attempt to vary the timing of taxes and expenditures to cool the economy as needed. In fact, the OECD has judged that aggregate fiscal policy was probably expansionary in 1973 and 1974, when restrictive or at least neutral policy was advisable.

In the absence of effective countercyclical monetary and fiscal policies, the government has resorted to selective, ad hoc controls on various categories of expenditure to control aggregate demand. For example, in 1971 and 1972, macroeconomic restraint was exercised by the imposition of a number of policies which reduced enterprise investment demand. Such policies took various forms including the following: regulations requiring enterprises to set aside advance dinar deposits when initiating investment projects or when obtaining foreign investment credits; laws prohibiting investment expenditures until a specified level of working capital had been achieved; and laws requiring minimum own participation rates in the financing of investment projects. Direct controls on enterprise investment of this variety were successful in reducing the rate of growth of real investment expenditures from an average of about 7 percent in 1970 and 1971 to an average of about 3 percent in 1972 and 1973. Unfortunately, the use of direct or indirect restrictions on investment expenditures as a tool of macroeconomic stabilization policy may necessitate a greater tradeoff between growth and price stability than would be required if other forms of aggregate demand were controlled.

Having surveyed the many sources of inflationary pressure in Yugoslavia and the policy problems involved in containing or reducing this pressure, it is possible to end on a somewhat optimistic note. Inflation rates in retail and wholesale prices for the January-July period in 1976 (as shown in Table 8) were lower than they had been at any time between 1971 and 1975.

The slowdown in inflation was the consequence of three factors: a decrease in external inflationary pressures; more stringent application

<sup>82</sup> Budget figures are taken from OECD, *Yugoslavia, 1976*, p. 25.

of price controls; and a reduction in real growth caused largely by a policy-induced slowdown in investment expenditures.<sup>83</sup> The reduction in the rate of growth of investment demand was the result of the application of direct controls of the type discussed above and of the new enterprise accounting law which encouraged greater caution in enterprise investment commitments. Although real growth stagnated during the first half of 1976 in response to slackening investment demand, there were no absolute declines in production, and by the second half of the year, real growth rates began to pick up. On this score, the Yugoslavs have done better than many of their western neighbors who managed to stem inflation only at the cost of actual declines in real production in 1974 and 1975. Hopefully, the reduced inflation rates of 1976 will make the future struggle against inflation easier by moderating the inflationary expectations which exacerbate and prolong the inflation process.

## VII. FOREIGN TRADE PERFORMANCE AND THE BALANCE OF PAYMENTS

### *1. Export and Import Performance*

The 1971-75 period was marked by major swings in Yugoslavia's foreign trade performance. Overall, plan targets for a growth rate of exports of goods and services of 11 to 13 percent and a growth rate of imports of goods and services of 9 to 11 percent were not realized. The actual growth rates were 7.3 percent and 5.8 percent respectively.<sup>84</sup>

However, growth rates varied widely from year to year, as the data in Table 10 illustrate. During the period of contractionary policy ranging from mid-1971 to mid-1973, import growth moderated, only to pick up again in response to the expansionary policy which followed. Export growth fluctuated also, though largely in response to conditions in Western Europe, rather than in response to domestic economic policy. Thus, the rapid growth of exports in 1972 can be attributed to expansive foreign markets while the stagnation of exports in 1974 reflects the beginning of the oil-induced recession in Western Europe. The very different pattern of export and import growth led to substantial variations in the trade deficit and in the percentage of import transactions covered by export receipts, as the data in Table 10 reveal.

To better understand the determinants of export and import growth, it is necessary to look at the commodity and geographical composition of Yugoslav foreign trade in greater detail. The data in Table 11 break down Yugoslav exports and imports by three major regions: industrial countries of the west; centrally planned economies; and developing economies. Two conclusions are immediately evident. First, the major share of the imbalance between exports and imports arises in trade with western industrial countries. For example, in 1973, 1974, and 1975, the share of the overall trade deficit arising in this segment of trade transactions was 74 percent, 75 percent, and 89

<sup>83</sup> Although there are no available data on real investment expenditures for 1976, the slowdown in investment during the first half of the year is suggested by the fact that hours of work in construction (an indirect indicator of investment activity) during the January-June 1976 period did not increase above the level reached during the same period of the previous year.

<sup>84</sup> Target growth rates from Table 1. "Dokumentacija \* \* \* 1975 godine," op. cit.; actual growth rates from Table 1, "Analytical Basis \* \* \* 1976-80 plan," op. cit.

TABLE 10.—EXPORT AND IMPORT PERFORMANCE AND PROJECTIONS

	Annual rate of growth						Planned rate of growth	
	1971	1972	1973	1974	1975	1976	1971-75	1976-80
Exports of goods and services <sup>1</sup> (1966 prices)...	6.5	30.4	8.6	1.0	-----	-----	11-13	* 8.0
Imports of goods and services <sup>1</sup> (1966 prices)...	11.6	8.7	13.1	14.4	-----	-----	9-11	* 4.5
Nominal value of <sup>2</sup> exports of goods.....	8.1	23.3	27.5	33.4	7.7	* 23.5	-----	-----
Real value of exports of goods <sup>3</sup> .....	3.8	17.3	6.3	1.0	-2.0	-----	-----	-----
Nominal value of imports of goods <sup>3</sup> .....	13.2	-6	39.5	66.7	2.4	* -11.0	-----	-----
Real value of imports of goods <sup>3</sup> .....	9.3	-6.1	16.9	14.4	-2.9	-----	-----	-----
Exports of goods/imports of goods <sup>3</sup> .....	55.7	69.2	63.2	50.6	52.9	* 70.2	-----	-----

<sup>1</sup> Growth rates calculated from figures in table A, appendix, OECD, Yugoslavia, 1976.

<sup>2</sup> These growth rates are taken from table I, "Analytical Basis.—1976-80 plan," op.cit.

<sup>3</sup> Growth rates and export/import ratio calculated from figures in tables 114-1 and 114-2, Statisticki Godisnjak, 1976.

<sup>4</sup> January-June estimates calculated from figures in Indeks, August 1976, p. 29.

TABLE 11.—YUGOSLAV FOREIGN TRADE PERFORMANCE BY GEOGRAPHICAL AREA

	1971	1972	1973	1974	1975	1976
Exports (percent of total): <sup>1</sup>						
OECD countries.....	52.9	56.9	55.7	46.6	35.7	-----
Planned economies <sup>2</sup> .....	36.7	36.1	34.0	41.6	47.2	* 42.4
LDC's.....	10.4	7.0	10.3	11.8	17.1	-----
Imports (percent of total): <sup>1</sup>						
OECD countries.....	65.8	65.4	62.5	60.5	60.8	-----
Planned economies <sup>2</sup> .....	23.9	24.8	24.8	23.3	24.8	* 28.7
LDC's.....	10.3	9.8	12.7	16.2	14.4	-----
Trade deficit (in millions of U.S. dollars): <sup>1</sup>						
OECD.....	-1,180	-841	-1,232	-2,789	-3,225	-----
Planned economies <sup>2</sup> .....	-112	+5	-147	-174	+17	* +35
LDC's.....	-148	-158	-279	-774	-416	-----

<sup>1</sup> Figures calculated from data in table L, appendix, OECD, Yugoslavia, 1976.

<sup>2</sup> Includes CMEA, China and Albania.

<sup>3</sup> January-June figures calculated from data in Indeks, August 1976, p. 29.

percent respectively. In contrast, trade with planned economies was balanced with only minor net surpluses or deficits in each year. The same conclusion applies to trade with the developing countries; only in 1974 and 1975 did the deficit in trade with these areas increase sharply due primarily to the oil price rise, and even in these years, the magnitude of the deficit was small relative to the deficit realized in trade with the industrial west.

Second, the geographical pattern of trade underwent some important modifications during the period. Within imports the share from western sources gradually declined from a high of 68.9 percent in 1970 to a low of 60.5 percent in 1974. The share from planned economies remained more or less unchanged, while the share from the LDC's showed a significant increase, especially in 1974 and 1975, again due to the oil price rise. Within exports the most important developments were a precipitous decline in the share of exports going to the west and a noticeable increase in the share directed to planned economies and, to a lesser extent, to the LDC's. The decline in the share of exports to the west was mirrored in the growing trade deficit with this area.

Exports to the west were adversely affected by a variety of factors over which the Yugoslavs had no control. First, the imposition of a ban on Yugoslav exports of beef to the EEC in 1974, caused a substantial decline in the volume of beef exports by 38 percent and reduced earnings of convertible western currencies by about \$96

million.<sup>85</sup> Second, the oil-induced recession in western industrial countries caused their total imports to slow down considerably during the second half of 1974 and throughout 1975. Declining demand for foreign goods was felt in Yugoslav markets. However, Yugoslav export performance in these areas was even worse than market-conditions predicted. For example, between 1974 and 1975, total imports by the EEC increased by 2 percent while total Yugoslav exports to this area fell by about 11 percent. Similarly, for the same period, total imports in industrial Europe and the United States increased by 0.3 percent while Yugoslav exports to these areas fell by 19 percent.<sup>86</sup> These figures suggest that Yugoslavia lost a share of the declining western market, and this conclusion is borne out by the figures in Table 12 which show a significant decline in the Yugoslav share of the western import market over the entire 1971-75 period.

There are many factors which can explain why this decline took place, the most important of which are market discrimination against Yugoslavia by major Western European trading partners, high inflation rates in Yugoslavia only partially offset by currency devaluations, and the inability of Yugoslavia to compete in many commodities because it lacks the necessary production technology and sales apparatus. Inability to compete in certain markets, especially those for processed goods, has led the Yugoslavs to depend on exports of materials, semi-processed goods and food to western markets, and the demand for these products may have fallen off more sharply than overall demand during the 1971-75 period, thereby explaining, at least in part, the loss in Yugoslavia's market share.

TABLE 12.—YUGOSLAV EXPORT PERFORMANCE BY REGION, 1971-75

	Total imports <sup>1</sup>		Annual growth in imports 1971-75 (percent)	Imports from Yugoslavia <sup>1</sup>		Annual growth in Yugoslav imports 1971-75 (percent)	Annual gain or loss in market share 1971-75 (percent)
	1971	1975		1971	1975		
Industrial Europe.....	151,012	347,938	23.2	7,874	10,782	8.3	-14.9
EEC.....	99,893	233,515	23.6	5,284	8,538	12.8	-10.8
LDC's.....	64,200	193,550	31.8	1,801	6,972	40.4	+8.6
Oil exporters.....	12,900	54,400	43.3	323	2,455	66.1	+22.8

<sup>1</sup> Millions of U.S. dollars; figures taken from IMF, International Financial Statistics, November 1976; pp. 36-40; pp. 240-241.

<sup>2</sup> Market gains or losses are calculated as the difference between the growth of Yugoslav imports in each area and the growth of total imports in each area.

The market possibilities for Yugoslav exports to the centrally planned economies are favorable because of weaker competition and the relative absence of marketing difficulties. In comparison to these trading partners, Yugoslavia, due to its openness to the west, is far ahead in the design, quality, and selection of many processed commodities. Therefore, the Yugoslavs have tended to export manufactured goods both in investment and consumption categories to these areas and to import fuel, other raw materials and some heavy equipment, particularly from the USSR. The problem for Yugoslavia

<sup>85</sup> These calculations are based on data in Table 1-2 of the Federal Statistical Office publication, Statistika Spoljna Trgovina SFR Jugoslavije, 1975.

<sup>86</sup> These figures are calculated from data presented on pages 36-40 and pages 240-241 of the International Monetary Fund's International Financial Statistics, November, 1976.

in trade with the planned economies seems to be their inability to supply goods which the Yugoslavs want or need to import. However, during the period under consideration, the Yugoslavs did manage to work out trade arrangements which allowed them to redirect a portion of their exports from tightening western markets to planned economies in return for greater imports from these economies. This redirection of trade is likely to be a temporary development. Once the effects of the western recessions subside, a return to the more traditional western orientation of Yugoslav trade can be expected. Preliminary data for 1976 support this prediction. During the first eight months of 1976, total Yugoslav exports increased by nearly 22 percent, while exports to the west increased by about 43 percent over the same period.<sup>87</sup>

Finally, a word should be said about trade with the developing countries. During the 1971-75 period, the market share of Yugoslav imports in total imports of the developing countries increased as the data in Table 12 reveal. Yugoslav exports have been aided by Yugoslavia's relative superiority in the production and design of processed goods vis à vis these areas and by specific policy measures taken by the Yugoslav government to promote the growth of trade with LDC's. Yugoslav policy efforts to stimulate trade with these areas are likely to continue, given the commitment to a faster development and diversification of forms of economic co-operation with developing countries in the 1976-80 plan. Future policy initiatives to realize this goal are likely to take the form of preferential credit policies and long-term co-operation agreements to promote exports and preferential tariffs to promote imports. Policies of these types were important stimulants to the growth of trade with the LDC's during the 1971-75 period.

The commodity composition of Yugoslav exports and imports was relatively unaltered between 1971 and 1975. The data in Table 13 reveal that imports of intermediate inputs (fuels, materials and semi-processed goods) continued to account for more than 60 percent of total imports, with the remainder accounted for mainly by imports of investment goods. The increase in the share of raw material and fuel imports in 1974 and 1975 was attributable to the worldwide commodity price inflation. The major share of exports continued to be accounted for by semi-processed manufactured goods, manufactured consumer goods and machinery.

The most important characteristic of the commodity composition figures is the high degree of dependence on imports of raw material, fuel and capital inputs suggested by them. "Excessive" import dependence of this nature has been a constant source of anxiety to the Yugoslav leaders and was recognized in the 1971-75 plan as one of the problem areas to be resolved. The data suggest, however, that the elimination of the problem was not realized during the plan period. If anything, import dependence probably increased. The magnitude of the import dependence problem can be seen from the figures on "direct and indirect" import content by industrial sector and by source of final demand presented in Table 14. These figures, calculated from the Yugoslav input/output tables for 1968, 1970, and 1972, indicate that import content in production and in all sources

<sup>87</sup> These figures are cited by Z. Antić in "Yugoslavia On the Way to Economic Recovery," Radio Free Europe Research Report, November 9, 1976, p. 8.

TABLE 13.—YUGOSLAV FOREIGN TRADE PERFORMANCE BY COMMODITY TYPE

	Percent of total				
	1972	1973	1974	1975	1976
<b>Exports: SITC:<sup>1</sup></b>					
Food.....	17.5	16.1	10.8	11.7	<sup>2</sup> 13.6
Materials.....	8.2	9.6	9.5	6.9	7.7
Fuels.....	8	8	1.1	8	7
Chemicals.....	6.4	6.2	10.1	9.3	8.4
Semiprocessed manufactures.....	27.1	28.5	32.7	28.9	27.1
Machines and other manufactures.....	39.6	38.1	35.3	42.0	42.0
<b>Imports: SITC:</b>					
Food.....	9.5	11.3	8.8	5.5	<sup>2</sup> 7.7
Materials.....	10.4	10.8	13.4	9.6	9.2
Fuels.....	5.5	7.9	12.6	12.3	16.2
Chemicals.....	10.8	9.9	10.8	10.8	11.0
Semiprocessed manufactures.....	26.1	23.9	23.7	22.7	17.6
Machines and other manufactures.....	36.2	35.5	29.8	37.6	37.6
<b>Imports: By type of good:<sup>3</sup></b>					
Material and fuel inputs.....	63.0	62.0	70.0	66.0	<sup>2</sup> 64.0
Investment goods.....	21.0	22.0	17.0	24.0	24.0
Consumer goods.....	16.0	16.0	13.0	10.0	12.0
Food.....	6.0	8.0	6.0	6.0	8.0

<sup>1</sup> 1972-75 figures calculated from data in table K, appendix, OECD, Yugoslavia, 1976.

<sup>2</sup> January-June figures calculated from data in Indeks, August 1976, p. 30.

<sup>3</sup> Figures calculated from data in Statistika Spoljna Trgovina SFR Jugoslavije, 1975.

TABLE 14.—TOTAL IMPORT CONTENT (DIRECT AND INDIRECT)

	Import content as percent of total in—		
	1968	1970	1972
Total agricultural and nonagricultural production.....	11.4	13.4	15.8
Total final demand.....	18.8	21.3	21.8
Investment.....	26.0	28.1	28.5
Personal and collective consumption.....	15.4	16.1	17.1
Exports.....	16.8	21.7	23.4

Source: M. Sekulic and M. Babic, "Uvozna Zavisnost Jugoslavenske Privrede i Efekti Povećanja Uvoznih Cijena," *Ekonomski Pregled*, 5-6, 1975, p. 355.

of final demand increased between 1968 and 1972. The overall dependence of the Yugoslav economy on imports, and its openness in world markets, is also suggested by the fact that merchandise imports were approximately 29 percent of social product during the 1971-74 period.

Because of Yugoslavia's dependence on imports of productive inputs, foreign trade or balance of payments constraints can set limits on domestic growth possibilities. Several Yugoslav authors, including Horvat and Pertot, have argued that such constraints play a role in the development of Yugoslav growth cycles. For example, Horvat has argued that economic growth slows down as foreign exchange reserves are depleted, making it impossible for enterprises to obtain the imports of inputs they need to continue production increases.<sup>88</sup> In their simplest version, arguments which identify a balance of payments constraint on growth rest on several assumptions including: unitary elasticity of imports with respect to domestic production and low or near zero price elasticity for both imports and exports. Empirical estimates of the income elasticity of imports in Yugoslavia range from about 0.85 to 1.50 and are not incompatible with the first of these

<sup>88</sup> Horvat "Kratkoročna Nestabilnost," op. cit.

assumptions.<sup>89</sup> The assumptions about price elasticities have not been empirically tested, but at least as regards imports of raw materials and fuels, low price elasticities seem likely given the lack of available input substitutes. Of course, to the extent that price elasticities are low, devaluations cannot serve as a policy measure to improve the economy's balance of trade position.

The evidence from the 1971-76 period is consistent with the existence of a balance of payments constraint on growth. In years of rapid domestic growth, such as 1971 and 1974, imports increased rapidly and the balance of trade deficit increased. Only in years of domestic slowdown such as 1972 and 1975-76, did import growth slow dramatically and the trade deficit moderate. The existence of foreign constraints on internal growth is clearly illustrated by the 1974-76 experience. In 1974, the Yugoslavs continued to pursue an expansionary domestic policy which led to significant increases in imports of productive inputs. Exports slowed down due largely to world market conditions beyond the control of the Yugoslav authorities. Even at constant terms of trade these developments would have caused a worsening of the trade deficit. As it was, a deterioration in the terms of trade by about 11 percent in 1974, exacerbated the situation, and the trade deficit increased by about 125 percent.<sup>90</sup> Because the Yugoslavs entered the 1974-76 period with a substantial reserve of foreign exchange, they were able to finance the unanticipated increase in the trade deficit in part by drawing down this reserve. In addition, they managed to obtain additional short-term and long-term foreign loans to support their growing import surplus. However, by mid-1975, in response to continued reserve losses and the worsening trade deficit, they were forced to revert to a contractionary domestic policy in an effort to cut imports. The preliminary figures for 1976 indicate that the balance of trade deficit improved that year but only at the cost of a substantial reduction in growth which sharply reduced import demand. Economic growth through the third quarter of 1976 was exceptionally low; industrial production increased by only 3.8 percent and nonagricultural production stagnated through the end of the second quarter. (See Table 8.) This slowdown in growth cut sharply into enterprise demand for imported inputs, as evidenced by the fact that only two-thirds of total import permits (see section on import controls below) were used by enterprises during this period.<sup>91</sup>

Battered by the 1974-76 crisis, the Yugoslavs have put even more emphasis on the goal of reducing excessive import dependence in the 1976-80 plan. Priorities for growth in ferrous and non-ferrous metallurgy, energy, chemicals and mechanical engineering are designed to provide domestic substitutes for raw material and capital goods imports. It is hoped that by 1980, net imports of raw materials will decline by 50 percent, mainly via the development of import substitutes in these priority sectors. Similarly, it is hoped to increase the share of domestic equipment in the total consumption of equipment to 60 percent. More extensive use of protectionist tariff measures

<sup>89</sup> Mencinger's quarterly model of the Yugoslav economy yields an elasticity of about .85; the OECD estimates a 1.50 elasticity for the 1964-1973 period. See Mencinger, "A Quarterly Macroeconomic Model," *op. cit.*, and OECD, *Yugoslavia*, 1976, p. 18.

<sup>90</sup> For a detailed examination of the changes in the Yugoslav terms of trade during the 1971-75 period, see the paper by Z. Fallenbuchl, E. Neuberger, and L. D'Andrea Tyson appearing in this volume.

<sup>91</sup> The use of import permits is referred to by B. Sefer, Vice-President of the Federal Executive Council, in his interview printed in *Borba*, Wednesday, October 27, 1976, p. 9, column 1.

and selective credit policy to stimulate import substitution industrialization is called for. Greater use of aggressive credit policy to foster sales of domestic equipment over sales of foreign equipment is also identified as an important policy tool. Finally, the system of import regulation described below is to be used more effectively to ensure that imports are limited to those goods which cannot be produced at home or whose domestic production is quantitatively insufficient. In general, it seems reasonable to expect a more concerted effort to promote import substitution programs and to restrict imports in Yugoslavia during the next four years. These policies should be matched by the continuation of traditional export promotion techniques.

## 2. Foreign Trade and Exchange Policies

During the 1971-75 period the Yugoslavs maintained their decentralized foreign trade and foreign exchange systems and relied on traditional export and import policies to guide enterprise trade decisions. On the import side there was continued reliance on a system of direct import controls which varied over time in their coverage. The controls distinguished between five categories of goods largely in accordance to the manner in which foreign exchange was made available for their importation; liberalized goods for which foreign exchange was freely available; goods imported under special license; goods imported under global foreign exchange quotas; goods subject to individual quotas, set in quantity or dinar terms; and imports subject to ad hoc licensing.

The trend toward less control over imports which began in 1967, continued through 1973, when an estimated 42 percent of total imports were placed in the liberalized category.<sup>92</sup> In 1974 and 1975, however, this trend was reversed in response to the deteriorating trade position, and many items, which had previously been imported under the more liberal control categories, were made subject to direct, ad hoc quotas.<sup>93</sup>

In addition to strengthening direct controls in this fashion, the Yugoslavs also relied on a scheme of import deposit requirements which they had used periodically in the past to restrict imports. According to this scheme, importers were required to make dinar deposits in some fraction of the amount of imports prior to the importation of goods. These deposits were held in non-interest-bearing accounts at the National Bank for as long as twelve months. In 1974, the import deposit scheme was applied to about 5 percent of total imports, but in 1975, the deposit requirements were relaxed for many products, as more direct controls were substituted. Finally, during the 1971-75 period, the prices of imports were influenced by existing tariffs and by a variety of additional import taxes, the rates of which were changed in response to the trade situation.

The 1976-80 period should witness a continuation of the traditional import policies discussed here. At least in the area of tariffs, however, some changes might be anticipated, based on the new plan's commit-

<sup>92</sup> IBRD, Yugoslavia, op. cit., p. 265.

<sup>93</sup> For example, in 1975, imports of 413 items, nearly 30 percent of total 1974 imports and including most consumer goods, certain machines, and some raw materials, were made subject to direct approval by the Federal Secretariat for Foreign Trade. See OECD, Yugoslavia, 1976, p. 25.

ment to use protectionist policy to implement structural goals and on its call for a reform of the current tariff schedule which is not considered to be sufficiently protective. Under the schedule existing during the 1971-75 period, the average nominal tariff on industrial imports was 13.6 percent, but rates differed among sectors, increasing from 0 percent for electrical energy to 21 to 24 percent for electrical equipment and metal products respectively.<sup>94</sup> Under the proposed tariff revision, sectoral differentiation of rates will continue as rates on basic commodities and materials are increased and rates on processed goods are decreased. The new tariff law will also allow the federal government to automatically increase tariffs by up to 50 percent if such an increase is required by the international situation. Finally, the proposed revision will allow for the continuation of a schedule of preferential tariffs for imports from the LDC's, this in keeping with the proposed goal of strengthening trade relations with developing markets. Along these lines, the plan also calls for the use of preferential credit terms on loans to finance imports from developing countries.

Perhaps the most important factor likely to affect imports in coming years is the proposed strategy of import substitution inherent in the system of sectoral and structural priorities on which the new plan is based. If the investment and growth strategy is successful, then imports are likely to grow less rapidly than social product as planned, and the overall import dependence of the economy will be reduced.

The 1976-80 period should also witness a continuation and strengthening of traditional export promotion policies pursued by the Yugoslav government including: schemes linking foreign exchange allocations for imports by enterprise or sector to their export earnings; tax exemptions and tariff rebates to exporters; preferential credit for the preparation and exportation of goods and services; and special funds to credit exports of equipment, shipping and the construction of capital projects abroad, and to insure export deals against non-commercial risks. The plan suggests that the linking of import capabilities to realized export earnings will be vigorously enforced as an export incentive mechanism. It is also hoped that the organization of the foreign trade network towards the creation of big units integrating productive, banking, and trading enterprises will encourage more effective export promotion and marketing techniques. However, individual enterprises themselves are also called upon by the plan to develop their own annual and long-term policy measures and plans for export promotion.

A final policy measure designed to foster both the realization of export promotion and import substitution goals is the continuation of the joint venture program allowing for long-term links between Yugoslav enterprises and foreign partners. The joint venture program, which had a slow beginning after its initiation in 1967, picked up pace in the early 1970's, and by the end of January, 1974, 97 joint venture contracts had been registered.<sup>95</sup>

According to the 1976-80 plan, joint ventures are to be encouraged because of their role in the transfer of technology on terms of equality

<sup>94</sup> IBRD, *Yugoslavia*, op. cit., p. 214.

<sup>95</sup> OCED, "*Foreign investment in Yugoslavia*," 1974, p. 17.

between domestic and foreign enterprises. However, in the conclusion of future contracts, it is to be guaranteed, in ways which are to be specified in future laws, that the proposed joint venture will contribute to the expansion of foreign markets for Yugoslav exports. This condition reflects Yugoslav concern over the possibility that joint ventures might increase import demand for raw materials without generating offsetting foreign exchange revenues from exports.

Within total exports, it is hoped that the 1976-80 period will yield a change in the composition of exports towards an increase in the proportion of processed industrial goods in the total. Growth in the export of food products, however, is also slated as a lasting orientation of policy. Agriculture's status as a priority sector should be helpful in the realization of this objective. Also useful in this regard is the proposed development of long-term contracts with interested buyer countries, especially the LDC's.

A continued emphasis is to be placed on tourism as an earner of foreign exchange during the next four years. During the 1971-74 period, tourism accounted for an average of 10.5 percent of total foreign exchange inflow on current account.<sup>96</sup> Similar results are projected for the 1976-80 period. The number of foreign tourist nights is expected to increase at an average annual rate of 7 percent, the rate realized during the 1971-75 period, and foreign exchange inflow from tourism is slated to grow at an annual rate of 9 percent.<sup>97</sup> These goals are linked to the more general goal of offsetting a larger share of the balance of trade deficit by earnings from services by 1980. Net transportation services, which accounted for an average of about 3 percent of total foreign exchange inflow on current account between 1971 and 1975,<sup>98</sup> and construction services, particularly in the form of building projects in LDC's, are also expected to be instrumental in the realization of this goal.

Before ending this section on foreign trade policies, it is important to mention the changes in the foreign exchange regime which occurred during the 1971-75 period. After a major devaluation in December, 1971, the dinar exchange rate remained fixed in terms of the dollar until mid-1973. Then, just as world market prices began their sharp ascent, the Yugoslavs removed the peg to the dollar and appreciated relative to it, in an attempt to bring the dinar-dollar rate into line with the rate between other western currencies and the dollar. Since mid-1973, the dinar exchange rate has been set on a managed foreign exchange market regulated by the National Bank. The rate has been determined by the supply and demand for foreign currency by authorized buyers and sellers but within limits maintained by National Bank intervention. Thus, the new system is best understood as a managed flexible or floating exchange rate system. The data in Table 15 indicate that the rate has been kept within fairly narrow limits for protracted periods of time, with a major devaluation occurring in October, 1974. This system of a managed flexible exchange rate should continue throughout the current plan period.

<sup>96</sup> This figure is calculated from data in Table 22, Appendix, National Bank of Yugoslavia, Quarterly Bulletin, July 1976.

<sup>97</sup> "Social Plan of Yugoslavia," 1976-80, op. cit., p. 62.

<sup>98</sup> See footnote 96 for reference.

TABLE 15.—*Dinar-dollar exchange rate*

1971:		1974:	
I.....	<sup>1</sup> 15.00	I.....	15.94
II.....	15.00	II.....	15.21
III.....	15.00	III.....	15.59
IV.....	17.00	IV.....	16.91
1972:		1975:	
I.....	17.00	I.....	17.02
II.....	17.00	II.....	17.00
III.....	17.00	III.....	17.63
IV.....	17.00	IV.....	17.89
1973:		1976:	
I.....	17.00	I.....	18.04
II.....	17.00	II.....	18.19
III.....	15.32	III.....	18.25
IV.....	15.44		

<sup>1</sup> Until mid-1973, these are official dinar-dollar exchange rates agreed with the IMF that represent effective obligations to maintain rates within margins of 1 percent of par. After July 1973, they are period averages of market rates.

Source: IMF, *International Financial Statistics*, November 1976.

### 3. Balance of Payments Performance

As might be anticipated, the major swings in export and import growth which occurred during the 1971-75 period gave rise to major swings in the current account as the data in Table 16 reveal. The current account moved dramatically from deficit to surplus in 1972, and then plunged from surplus to deficit in 1974. Preliminary figures indicate the most recent reversal from substantial deficit in 1975 to significant surplus in 1976. Of major importance in the current account picture are worker remittances which amounted in size to an average of about 40 percent of total earnings from exports between 1971 and 1975. Although remittances are expected to continue to be a major source of foreign exchange between 1976 and 1980, they are expected to decline as a share of the total, because the net outflow of new emigrant workers is expected to remain below the levels realized in the 1971-73 period.

As the data in Table 16 indicate, the large current account deficits of 1974 and 1975 were financed by reductions in foreign exchange reserves and by official long-term loans and credits, and, to a lesser extent, by short-term suppliers' credits. The increase in foreign loans in these years brought the gross convertible foreign currency debt, both public and commercial, to about \$5.6 billion by the end of 1975 (up from \$1.9 billion at the end of 1970). The debt service ratio at the end of 1975 was estimated to be about 20 percent.<sup>99</sup> Such a ratio is not excessive, and the Yugoslavs have not planned to markedly reduce it over the 1976-80 period. Instead, the new plan states that external indebtedness will be limited to a level which will not increase the amount of indebtedness relative to the inflow of foreign exchange over the period.<sup>1</sup>

In 1976, the current account deficit was reversed and by September an estimated surplus of about \$330 million<sup>2</sup> had been recorded. This surplus, combined with the impact of foreign loans made available

<sup>99</sup> These figures were made available by Dr. Lawrence Brainard, Chief International Economist, Banker's Trust Company, New York.

<sup>1</sup> Social Plan of Yugoslavia, 1976-80, op. cit., p. 113.

<sup>2</sup> This figure is cited in the interview of B. Sefer in Borba, op. cit., p. 9.

TABLE 16.—BALANCE OF PAYMENTS (YEAR-END; MILLIONS OF U.S. DOLLARS)

	1971	1972	1973	1974	1975	1976.
A. Current account <sup>1</sup> .....	-388	415	491	-1,226	-925	<sup>2</sup> 330
Exports f.o.b.....	1,972	2,238	2,887	3,874	3,965	<sup>3</sup> 3,563
Imports f.o.b.....	-3,240	-2,965	-4,186	-7,022	6,872	<sup>3</sup> -5,274
Trade balance.....	-1,268	-727	-1,299	-3,148	-2,907	<sup>2</sup> -1,711
Services: Credit.....	1,518	1,801	2,565	3,013	3,298	.....
Transportation.....	243	255	301	318	459	.....
Travel.....	392	463	638	714	748	.....
Workers' remittances.....	708	889	1,326	1,469	1,639	.....
Other.....	175	194	300	512	452	.....
Services: Debit.....	-786	-819	-992	-1,353	-1,536	.....
Transportation.....	-291	-283	-353	-560	-621	.....
Travel.....	-239	-245	-253	-56	-64	.....
Investment income.....	-169	-173	-232	-290	-328	.....
Other.....	-87	-118	-154	-447	-523	.....
Private unrequited transfers.....	149	161	218	263	221	.....
Government unrequited transfers.....	-1	-1	-1	-1	-1	.....
B. Long-term capital (net).....	583	489	614	496	823	.....
C. Short-term capital (net).....	-290	-393	-318	131	-33	.....
D. Counterpart items (monetization of gold and allocation of SDR's).....	25	28	.....	.....	.....	.....
E. Reserves and related items.....	70	-539	-787	599	135	.....
Foreign exchange and other claims.....	-47	-543	-647	342	210	.....
Use of IMF credit.....	73	19	-75	143	19	.....
Other.....	44	-15	-65	114	-94	.....

<sup>1</sup> 1971-75 figures from IMF, Balance of Payments Yearbook.

<sup>2</sup> Figures quoted from B. Sefer interview in Borba, October 1976, op. cit., and refer to end of September.

<sup>3</sup> Trade figures for 1976 are through the end of September; imports are c.i.f. basis.

in 1976, dramatically increased foreign exchange reserves which climbed from about \$777 million at the end of 1975, to \$2006 million by the end of 1976.<sup>3</sup>

Thus, whereas in 1974 and 1975, the Yugoslavs were worried about excessive losses in foreign exchange, in 1976, they appeared concerned about finding the most profitable ways in which to manage their current exchange reserves. The dramatic turnabout in the foreign exchange situation reflects the revitalization of Western European markets on the one hand and the adoption of a restrictive domestic growth and import policy on the other.

It should be noted that the Yugoslavs have been able to recover from the balance of payments deterioration of the 1974-75 period more rapidly and with a smaller sacrifice in real growth than many of their neighbors to both the east and the west. Nonetheless, the turnabout may be shortlived. Judging from the historical record, it seems clear that if 1977 is a year of rapid growth in Yugoslavia, then the current account position will worsen and foreign exchange reserves will once again decline. Only in the longer run, as the economy reduces its import dependence and increases its export markets, will the tradeoff between domestic growth and external balance be improved.

## VIII. CONCLUSIONS

The 1971-75 period was not an easy one for Yugoslavia. Weakened by internal political divisiveness and macroeconomic instability in

<sup>3</sup> IMF, International Financial Statistics, February, 1977, pp. 390-391.

the early 1970's, the economy was only just beginning a recovery phase when it was hit by the unanticipated impact of worldwide inflation and recession in 1974 and 1975. These developments added to domestic inflationary pressures, caused a sharp deterioration in the balance of trade, and thwarted recovery plans. As a result, domestic employment and growth targets had to be sacrificed. Reductions in growth in turn conflicted with policy objectives to alleviate pressing unemployment and regional development problems.

By the middle of 1975, the economic situation seemed bleak. By the end of 1976, however, circumstances had improved markedly: the rate of inflation was lower than it had been at any time during the current decade, the trade deficit had declined, the current account had moved from deficit to surplus, and the level of international liquidity was at an all time high. Significantly, the reversal in the economic situation was accomplished without the sacrifice of the principles of market socialism and self-management on which the Yugoslav economic system rests. Although the temptation to introduce a greater degree of state control to deal with the economic crisis may have been great, it was resisted. In this respect—as in most others—Yugoslavia differs from the countries of Eastern Europe, many of which are purported to have sacrificed economic reform to the exigencies of the recent crisis period.

The good economic results of 1976 were accomplished only at the cost of disappointing real growth. Therefore, in the next few years, it is reasonable to expect that the Yugoslavs will revert to a more expansionary domestic policy to stimulate output, investment and employment. The new commitment to sectoral priorities and import substitution is likely to influence the measures by which domestic expansion is promoted. If the 1976–80 plan is used as a guide, then selective rather than general promotion of investment can be expected, as policy-makers strive to realize sectoral targets in agriculture, basic raw materials, and energy.

Looking ahead, it seems clear that some of the economic problems facing Yugoslavia will persist through 1980. Unemployment will remain high even if projected employment growth targets are realized. Agriculture will remain weak because of the existence of large numbers of small, low productivity, private farms, and regional disparities will continue even if the less-developed regions grow more quickly than the more developed ones as planned. In addition, there is no reason to anticipate the disappearance of inflationary pressures, since the sources of inflationary bias in product and labor markets have not been eliminated. Nonetheless, some progress in all of these problem areas is possible provided prudent economic policies are adopted and provided the international economic situation does not once again act as a barrier to the realization of domestic economic goals.

In conclusion, it is important to note that several of the problems confronting the Yugoslav economy are largely the consequence of two important characteristics of its environment—its level of development and the existence of regional divisions and differences which are themselves exacerbated by historical ethnic rivalries and suspicions. In some of the existing literature on Yugoslavia, these characteristics

are overlooked, and the institution of self-management is identified as the source of many economic difficulties, including unemployment, inflation and barriers to labor and capital mobility. Although it is certainly true that the behavioral rules of self-management may contribute to these problems, or may constrain feasible solutions to them, it is impossible to distinguish the effects of these rules from the effects of other characteristics of the Yugoslav economic system and environment. Whatever the case, however, it is certain that the Yugoslavs remain committed to the ideological principles of self-management and guided market socialism on which their economic system rests. Therefore, in the future, as in the past, these principles are likely to shape the policies which are adopted to achieve economic goals. Because these principles are unique to Yugoslavia, economic and political developments there will continue to be followed with interest throughout the world.

#### APPENDIX. THE THEORY OF THE SAVINGS AND INVESTMENT BEHAVIOR OF THE SELF-MANAGED FIRM

In a situation in which enterprise capital is socially rather than privately owned, workers face a choice between distributing net income and investing in individually owned assets which earn a rate of return and have a recoverable principal, or retaining a share of enterprise net income to finance enterprise capital investment which earns a rate of return but has non-recoverable principal. Assuming workers maximize the present discounted value of their earnings over time, their choice depends on a comparison of the expected rates of return on individual and collective investments. For simplicity, suppose all workers in an enterprise have the same marginal rate of time preference "R" and the same expected length of job tenure "t." Suppose further that privately owned assets carry a fixed real rate of return "s." Then the real rate of return "m" on collective investment required to make workers indifferent between private investment and collective investment is given by the equality

$$(1+m)^t - 1 = (1+s)^t.$$

The equalizing differential "d" between "m" and "s" is the result of the differences in property rights between privately owned assets and collectively owned enterprise capital. Clearly, the existence of such a differential implies a possible misallocation of investment resources between private and collective assets. Of more relevance to the savings issue examined here is the fact that the enterprise is likely to "underinvest" in socially owned assets, distributing the bulk of its earned income in wages instead of retaining it to finance enterprise investment.

Workers will continue to invest in enterprise capital until its marginal product just equals the marginal rate of time preference plus the premium which the workers require to make them indifferent between investment in enterprise assets and investment in privately owned assets. Thus, the equilibrium capital stock is given by the equality

$$MP_k = R + (m - s) = R + d$$

where  $MP_k$  is the marginal product of capital.

The shorter the time horizon and the higher R, the higher must be the marginal product of capital, and hence the smaller the equilibrium enterprise capital stock and the smaller the volume of enterprise savings and collective investment. From this, Vanek and others have concluded that for reasonable values of t and R, and for an interest rates on privately owned assets which reflects the marginal return to capital from society's standpoint, collective enterprise savings and investment rates are likely to be low.

So far the discussion has assumed that all enterprise investment is "self-financed" by retained earnings. To add realism to the picture, suppose that the enterprise can borrow funds from external lenders, such as banks, at a fixed borrowing rate "r." <sup>4</sup> As long as  $r < R < m$ , enterprise workers will save nothing out of their current incomes but will borrow to finance collective investment projects. Under these circumstances the collective savings rate will be zero while collective investment will be positive. On the other hand, if  $r > R < m$ , then collective savings and investment will occur together. In intermediate cases, enterprise investment projects are likely to be financed by a combination of enterprise savings and bank loans.

What is important to note here is that if bank lending rates are set artificially low, this will encourage enterprises to drive their internal savings rate to zero, depending on external sources of funds for collective investment. Under these circumstances, enterprise demand for external finance may appear insatiable while enterprise savings are zero. If bank lending rates reflect the marginal productivity of capital, and if enterprises are compelled to finance all of their investments externally, then the misallocation and underinvestment problems associated with self-financing will be eliminated. In the intermediate cases where internal and external sources of funds are used, these problems will be mitigated, largely in proportion to the degree of external financing.

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<sup>4</sup> "r" is a measure of the total borrowing cost including interest payments plus any repayment of the loan principal made over the period of the planning horizon "t."

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Part III. FOREIGN ECONOMIC RELATIONS

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(997)

# CMEA AND THE WORLD ECONOMY: INSTITUTIONAL CONCEPTS

BY MAX BAUMER AND HANNS-DIETER JACOBSEN\*

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## I. INTRODUCTION

The CMEA countries are trying to overcome their relative isolation from the world economy, and to institutionalize their increasing economic relations by agreements with, or membership in multinational organizations. At present however, these efforts are somewhat overshadowed by the developing countries increasingly urgent demand for a reorganization of the international economic order and by the expanding complex of negotiations and relations among the Western industrialized countries and the Third World. Yet, the international economic weight of CMEA members has become too great to discuss new forms for international economic relations without taking into consideration the needs of the State Trading countries.

The increasing volume of East-West economic relations has led to institutional arrangements on a multinational basis. During the last few years all relevant global and a great number of regional economic organizations have been confronted with problems arising from the interactions of capitalist and socialist nations or groups of nations. An analysis of these relations has to be conducted on several levels, because, on the one hand, West and East (at least in part) are trying to find mutually satisfactory arrangements within common frameworks, such as GATT (General Agreement on Tariffs and

\* This paper is based on the authors "Institutional Aspects of East-West Economic Relations", in: *Journal of World Trade Law*, vol. 10, No. 5 (August/September 1976), pp. 434-452.

Trade), IMF (International Monetary Fund), or ECE (UN Economic Commission for Europe), while on the other hand organizations from two opposing European camps, i.e. CMEA (Council for Mutual Economic Assistance), and the EC (European Community), are negotiating together for their mutual benefits. A look into these organizations must take into account the interaction of co-operation and conflict in international economic relations. The crucial questions can be stated as follows: to what extent can global and regional economic organizations set the framework to promote economic relations among countries having different economic and social systems? Where are their possibilities, where are their limits?

To tackle these questions the following approach has been chosen: After a brief outline of the present state of East-West relations as regards international economic organizations, the relevant economic and political objectives of the CMEA countries will be discussed and some main problems of regional and global settlements will be pointed out. Some concluding remarks will be made as to possible consequences and perspectives for the integration processes in East and West Europe and for the discussed international economic organizations.<sup>1</sup>

## II. THE PRESENT SITUATION

Since the mid-sixties, the West has had to cope with attempts by some East European countries to join GATT in order to expand the socialist world market and to participate in the world economy. Although the CSSR is one of the founding nations of GATT (1947), it takes no active part in its activities. Thus it has been absent from the past rounds on tariff reductions, Poland joined GATT as a full member in 1967, followed by Romania in 1971 and Hungary in 1973. Bulgaria has had observer status since 1967.<sup>2</sup> These countries participate in the current "Tokyo Round" of GATT without making substantial proposals or taking decisive initiatives.

Another organization increasingly attracting CMEA members is the IMF. Poland and the CSSR were among the founding nations of the IMF, but resigned in the early fifties. It was not until the mid-sixties that some socialist countries began to modify their negative attitude towards the IMF. Thus in 1968, Hungary appeared close to applying for membership. But it was Romania which was the first CMEA nation to become (again) a member of IMF and the World Bank.

Presently, there are no definite indications that other CMEA members are going to apply in the near future.

Corresponding to these developments at the global level, unprecedented steps have also been taken at the regional (European) level. In this respect, Romania acted as pioneer; in 1973, upon its own application, it was granted the EC's General Preferences. In the same year, the Secretary General of CMEA took an initiative

<sup>1</sup> These issues are discussed in more detail in M. Baumer: Zur Multilateralisierung des Außenhandels der RGW-Mitgliedstaaten, (Multilateralization of CMEA Member Countries' Foreign Trade), SWP-S 235, Ebenhausen, April 1975; H. D. Jacobsen: Die wirtschaftlichen Beziehungen zwischen West und Ost, (The Economic Relations between the West and the East), Reinbek 1975.

<sup>2</sup> The two remaining European member states of CMEA, the GDR and the USSR, are the only countries that have so far shown no interest in direct cooperation with or membership in GATT.

towards the EC with the objective of formalizing CMEA-EC relations through treaties and arrangements. This step was surprising because until then the EC had been labelled an "instrument of imperialism" or an "extension of NATO". In early 1976 the president of CMEA's Executive Committee submitted to the president of the EC Council of Ministers a detailed draft for an agreement between the EC and CMEA, to which the EC reacted in November 1976.

Beyond these chronological developments, it is conceivable that the provisions set out in the Final Act of the Conference on Security and Cooperation in Europe (CSCE) will lead to an enlarged scope of all-European institutions, such as the Economic Commission for Europe. It cannot yet be determined, however, to what extent the increasing uneasiness in some Western countries about the results of continued "detente" will influence the future course of such institutional relations.

### III. ECONOMIC OBJECTIVES OF EAST EUROPEAN COUNTRIES AND THE SOVIET UNION

The socialist countries of Eastern Europe<sup>3</sup> are closely tied into the integration process within CMEA. By utilizing gains from specialization and importing raw materials from the USSR, the smaller CMEA members have been able to achieve high rates of growth. However, the economic reforms in the socialist countries—which among other things caused a reassessment of the role of foreign trade in the development process of socialist countries—led to the insight that the technological gap between Western and socialist countries could not readily be diminished by increased and better use of own resources and a higher degree of division of labor within CMEA. Greater utilization of Western technology and credit promotion of economic cooperation with the West (acquisition of licenses, cooperation in research and development, co-production, joint enterprises, etc.) turned out to be advisable. Moreover the growing demands on the part of the population of socialist countries—caused among other things by the "demonstration effect" of Western prosperity—could partially be covered that way. Consequently, the East European countries are trying to increase their hard currency earnings by exporting complementary goods (raw materials and foodstuffs), as well as substitutional (manufactured) goods.<sup>4</sup>

Because of their geographical proximity to the highly industrialized capitalist world, an East-West division of labor may grant greater advantages to some East European countries than trade with certain enterprises and regions within the USSR (their location might be less favorable due to higher transportation cost).

<sup>3</sup> The term "East European countries" refers to the European members of CMEA with the exception of the Soviet Union (i.e. Bulgaria, CSSR, GDR, Romania, Poland and Hungary). This distinction seems useful as the problems and objectives of these smaller countries often differ from those of the USSR.

<sup>4</sup> These objectives concur with those of the Western countries which are looking for new markets for their products as well as for stable sources of raw material and energy imports. Moreover, in relation to countries like the U.S. and Japan, the West European countries seem to be able to realize their competitive advantages (geographic location, etc.) easier in the CMEA market than in other areas of the world economy. Cf. J. Bethkenhagen/M. Lodahl/ H. Machowski: Auswirkungen der EWG auf den Ost-West-Handel (Implications of the EEC on East-West trade), Gutachten des Deutschen Instituts für Wirtschaftsforschung (DIW) im Auftrage des Bundesministers für Wirtschaft, Berlin, December 1976, p. 66 (table 7).

The role of foreign trade in national economic development (dependence on foreign trade) is much greater for relatively, small countries such as the socialist states of East Europe, than for large countries like the Soviet Union. Thus, the percentage share of foreign trade in the GNP of East European countries is about three to five times higher than in the USSR.

The Soviet Union can be termed gifted as far as its economic self-sufficiency and independence is concerned, because of the size of its domestic market and thanks to its ample natural resources. The smaller East European nations do not have such assets which explains their economic dependence on the Soviet Union and their commitment to the Soviet socialist bloc: they cover their raw material needs almost exclusively from Soviet deliveries which they must finance with industrial exports that to a high degree are not competitive on the world market.

The structural changes on the world market since 1973 have resulted in more favorable terms of trade for the Soviet Union which is therefore striving for increased sales of raw materials to hard currency countries. World market prices for these materials presently exceed those within CMEA (e.g. on the world market the price for oil is almost twice as high as it is within CMEA).

This fact contributed to the Soviet modification of their stance vis-a-vis their East European partners. The USSR took steps to lower the barrier between CMEA and the capitalist economies in favor of a partial rapprochement with the highly industrialized Western nations and their institutions and organizations. On this premise, the approaches of some of the smaller socialist countries towards GATT, IMF, etc. seem also acceptable from a Soviet point of view. The attempts of these states to expand their political and economic leverage through a greater opening towards the West and access to Western organizations in order to limit Soviet influence and to gain economic benefits, now coincides with Soviet endeavors to expand their own trade with the West. But the decisive aspect is the fact that economic constraints narrow the political margin of action on the part of the smaller East European countries. Thus the above mentioned price rises for raw materials and fuels on the world market (in contrast to much lower increases within CMEA) have placed the smaller socialist countries into the unfavorable position of being unable to buy more raw materials in the world market in order to reduce their dependence on the Soviet Union.

In addition, there are other motives for a lessening of Soviet resistance against East European initiatives towards Western economic organization:

The long-run Soviet interest in internationally competitive trading partners in Eastern Europe both as providers of high-quality industrial goods and as reduced consumers of their own raw material exports so that hard currency earning can be increased.

The enhancement of CMEA's attractiveness vis-a-vis third countries.

Considering the high degree of economic dependence between the socialist states a possible decline of East European commitment to CMEA (as a consequence of increased contacts with the West) is unlikely to reach substantial proportions.

The possession by the Soviet Union of effective political (through the parties) and military (through the Warsaw Pact) instruments to control its CMEA partners.

The strengthening of the world-wide economic position of the Soviet Union as a result of the increases in the market price of fuels and raw materials.

The incentives for CMEA member states for joining multinational economic organization can be summarized briefly. Priority is placed on improved earnings of hard currency in order to finance imports from the West. As far as international organizations are concerned this can be achieved through the lowering of barriers to trade (tariff and nontariff). Secondly, a larger volume of Western credits and better terms of payment might help smaller CMEA states with a few raw materials and dependent on foreign trade to reach higher rates of economic growth and to speed up the restructuring of their economies. The necessary adjustment processes on the part of CMEA nations will increase their economic flexibility and may thus have favorable political implications. But this consequence raises the question as to the compatibility of such developments with the socialist system; i.e., as to the crucial limit of measures that might jeopardize the scope and stability of socialist economic and political order.

#### IV. RELATIONS BETWEEN THE EC AND CMEA

In the fifties and early sixties relations of CMEA countries with member states of the European (Economic) Community were not only determined by terms of the strategic embargo and economic warfare on the part of the West, but also by the socialist view that the West European Community ". . . cannot be separated from the dominance of private property and the power of the capital. It is subordinated to the interests of maintaining the capitalist system, to the interests of monopolies."<sup>5</sup>

Since then, and particularly since the early seventies, the socialist countries have visibly modified their assessment of the EC and changed their tactics as well. Against the background of political détente, the rapidly developing relations between the two economic blocs and the increasing integration within them, showed the need for a modus vivendi. In 1973, M. Maximowa reasoned that ". . . capitalist integration for its inherent contradictions increases the economic and scientific and technical potential of the integrating countries, helping increase the efficacy of their economies. This must be taken into account when considering the question of economic competition between the two systems."<sup>6</sup> . . . and "For all its limitations and incompleteness, capitalist integration is a factor exerting considerable influence on the development of centripetal and centrifugal tendencies in the capitalist camp, on the relationship and alignment of forces there, and on the position of both individual capitalist

<sup>5</sup> M. Maximowa: *Integrationsprozesse im System des Imperialismus (Integration Processes in the System of Imperialism)*, in: *Probleme des Friedens und des Sozialismus*, No. 3, (1971) p. 372 (translated by the authors). The historical development of the Soviet attitude towards the West European integration process has been described by B. Dutoit: *L'Union Soviétique face à l'intégration européenne (The Soviet Union and the European Integration)*, Lausanne 1964, pp. 87; and E. Schulz: *Moskau und die europäische Integration (Moscow and the European Integration)*, München-Wien 1975.

<sup>6</sup> M. Maximowa: *Economic Aspects of Capitalist Integration*, Moscow 1973, p. 331.

countries and certain regional groupings. This is of great importance for the foreign policy of the Soviet Union and the countries of the socialist community."<sup>7</sup>

This modification of the Soviet evaluation of the West European integration occurred in the same time period when the "international socialist division of labor" was redefined as "socialist integration", and a "Comprehensive Program"<sup>8</sup> was adopted by the CMEA countries. The member states succeeded in agreeing on this long term Program which in itself is not completely consistent as far as its goals and instruments are concerned. However, it could provide the framework for furthering the economic and political unification process within CMEA.

Moreover, it has to be kept in mind when evaluating CMEA initiatives towards the EC that—parallel to the above mentioned developments—the Soviet Union propagated a European Security Conference. According to Soviet intentions, the CSCE was to sanction and consolidate the status quo in Europe, and to develop all-European perspectives which would effect the West European integration and cooperation within NATO.<sup>9</sup>

Realization of the then ambitious integration plans of the EC (e.g., establishment of a currency union) could have led to the creation of an economic and political power bloc which could have effected Soviet interests in Eastern Europe. Moreover, direct relations with the EC implied a chance to influence the development of the EC<sup>10</sup> and the Atlantic Community.

The goals and policies of the member countries of CMEA and the EC vary and are subject to change as far as the form of institutionalized East-West relations is concerned. CMEA's recent initiatives for establishing direct relations with the EC seem to have somewhat abated in spite of the February 1976 draft agreement. This can be explained by a change of policy on the part of the Soviet Union. Whereas the Soviet intention of achieving a stronger commitment of the East European countries to CMEA by means of direct EC-CMEA relations has not altered, changes in the political and economic framework have reduced the importance of this objective. Noteworthy enough in many respects this development concurs with the aims of the East European countries which believe that their own political and economic objectives are better served by bilateral contacts with individual West European states than by negotiations with the EC as such. They also expect to reach more concessions this way than by coordinated EC-CMEA settlements.<sup>11</sup> Although not stated explicitly, these countries seem to hope that the Soviet hegemony within CMEA will at least not be increased in this way.

<sup>7</sup> *Ibid.*, p. 330.

<sup>8</sup> Comprehensive Program for the Further Extension and Improvement of Cooperation and the Development of Socialist Economic Integration by the CMEA-Member Countries, CMEA Secretariat, Moscow, 1971.

<sup>9</sup> Cf. H.-D. Jacobsen, M. Baumer: KSZE und die Entwicklung der Beziehungen zwischen EG und RGW (CSCE and the development of relations between the EC and the CMEA), in: J. Delbruck, N. Ropers, G. Zellentin (editors): Grunbuch uber die Folgewirkung der KSZE, DGFK-Veroffentlichung, Bd 3, Kohn 1977, forthcoming.

<sup>10</sup> Especially since EC integration progress slowed down considerably in 1973/74.

<sup>11</sup> Cf. also Pinder, COMECON, An East European Common Market? In: J. Lukaszewski (ed.): The People's Democracies After Prague-Soviet Hegemony, Nationalism, Regional Integration? Bruges 1970, p. 155.

Similar considerations may have caused the EC and its member states to react reservedly in this matter. Although the coordination of the national foreign economic policies vis-a-vis centrally Planned Economies is an integration goal, this interest is superseded by reservations against supporting Soviet dominance in the CMEA area. Furthermore, some EC member states seem to believe that their economic competitive position vis-a-vis Western rivals for the Eastern markets can be ensured by continued bilateral contacts with individual CMEA countries. The EC-Commission also appears to prefer bilateral relations with individual CPE's (compared to contacts with CMEA as such), but at the same time with the objective of achieving a joint policy in trade and cooperation within the Community. Another indicator for divergencies of interest between the Commission and the member states is the failure to establish a common credit policy with respect to CMEA countries. The "Gentlemen's Agreement" on export credits reached between the main Western trading partners of CMEA in 1974 has not solved this problem and does not seem to be very effective. Although the EC commission and member states differ on matters of competence, they agree insofar as both prefer to negotiate with each State Trading country separately rather than with the CMEA secretariat.<sup>12</sup> One of the reasons for this preference is the argument that CMEA lacks the authorization to conclude agreements that are binding for all member states. Although this seems to be correct it has no relevance for negotiating agreements encompassing only "interested" partners. Another reason is the fear that in the case of an agreement between EC and CMEA Soviet predominance in CMEA could be formally acknowledged and even endorsed by the EC. To be sure, in the last few years some CMEA countries have tried to compensate at least in part for the U.S.S.R.'s economic dominance in Eastern Europe by increasing their own relations with the West. However, since the Soviet Union has granted the smaller East bloc nations a greater margin for action towards the West—as has already been pointed out—this argument must be put into perspective. The political levers exercised by the Soviet Union continue to be functionable. Agreements between CMEA and third countries could result in making "maverick actions" by individual CMEA countries less likely or in lessening the probabilities for direct Soviet intervention because of the existence of a common CMEA framework for extra-bloc relations.<sup>13</sup>

<sup>12</sup> This can be demonstrated by a statement made by Sir Christopher Soames, former Vice President of the Commission and in charge of foreign relations. In February 1975 before the European Parliament he said that the EC Commission could establish relations with COMECON and develop them in such areas in which either organization fulfils more or less comparable functions and where questions of mutual interest can be found, discussed and possibly solved together. At the same time and parallel to this the Commission could establish and develop relations between the Community and the member countries of COMECON in such areas in which the Community and the member countries of COMECON have competence, as e.g. in trade policy. Cf. Sitzungsdokument des Europäischen Parlaments, No 186/75 17.-21. February 1975, p. 206.

<sup>13</sup> The above arguments do not consider the specific intra-German problems and their implications for EC-CMEA-relations. The GDR has special privileges arising from the "intra-German" trade and her indirect access to the EC market, and therefore must be considered as a typical representative of CMEA. For its specific political and economic interests cf. D. C. Ehlermann /S. Kupper /H. Lambrecht G. Olling: Handelspartner DDR—Innerdeutsche Wirtschaftsbeziehungen (Tradingpartner GRD—Intra-German economic relations), Baden-Baden 1975; P. Scharpf: Europäische Wirtschaftsgemeinschaft und Deutsche Demokratische Republik (The European Economic Community and the German Democratic Republic), Tübingen 1973. Conceivable agreements would have to take account of the inner-German relationship. For possible solutions confer E. Schulz: Moskau und das Problem der Integration in Westeuropa (Moscow and the problem of integration in Western Europe). in: Europa-Archiv, Vol. 30 (1975), Nr. 12, pp. 388.

### 1. *The State of EC and CMEA*

The legal basis for the EC's joint trade policy is clearly determined.<sup>14</sup> On Jan. 1, 1973, competence for the conclusion of trade agreements with third countries switched from individual EC members to the EC Commission. The last bilateral trade agreements ran out on Dec. 31, 1974. In the fall of 1974, the EC submitted to each CMEA member a "scheme" for trade agreements between the Community and individual State Trading countries. The main features were the following:<sup>15</sup>

EC's readiness to conclude long-term, nonpreferential trade agreements which ensure equal mutual benefit.

Creation of conditions for promoting the dynamic development of mutual trade.

Mutual Most-Favoured-Nation (MFN) treatment (i.e., EC-MFN in return for reciprocal concessions by CPE's).

Search for possibilities to liberalize imports.

Payments and financial problems in foreign trade are to be discussed case by case.

Common agricultural policy is not mentioned as a subject for negotiations.

None of the CMEA countries reacted favorably, nor concluded an agreement on the basis of this "scheme". Hence, since the beginning 1975, trade between EC- and CMEA member countries lacks a contractual basis. In order to bridge the situation the Community autonomously takes charge of the member countries import regulations.

The urgency to sign a trade agreement with the EC was not very high for the CMEA countries. Most EC countries decided to conclude long-term, bilateral cooperation contracts with individual State Trading countries in which the distinction between matters of trade and those of cooperation was not altogether clear-cut. Since Art. 113 EEC-Contract covers trade but not economic cooperation agreement, this practice could be interpreted as a dodging of EC regulations. In the summer of 1974 the Commission initiated an information and consulting procedure for conclusion of economic cooperation agreements between EC members and third countries.<sup>16</sup> Consequently the Commission and/or individual members can now demand information on the terms of a new cooperation agreement, yet they have no direct influence on its formulation. The basis for CMEA's foreign trade policy is not unequivocally determined. The Council for Mutual Economic Assistance according to its statute is not a supranational institution and has no supranational powers. It can only make recommendations. Moreover national governments are free to announce that they are not interested in any particular matter under discussion (Art. IV CMEA-statute). The EC argues that for this reason it can sign foreign trade agreements only with individual CMEA nations, but not with the institution CMEA. The State Trading countries

<sup>14</sup> Art. 110 seq. of the EEC Treaty envisaged a joint trade policy beginning Jan. 1, 1970. However, with respect to CMEA countries these provisions were not put into effect until Jan. 1, 1973.

<sup>15</sup> The bargaining position of the EC-countries in the CSCE was very much based on these features. Cf. O. G. Schwerin: Die Solidarität der EG-Staaten in der KSZE (The solidarity of the EC countries during the CSCE), in: Europa-Archiv Vol. 30 (1975) No. 15, pp. 483.

<sup>16</sup> Cf. EC official press release No C 106, 6 Dec 1975., release No. L. 208, 30 July 1974.

reacted by revising Art. III of the CMEA-Statute in June 1974 which now allows for CMEA to sign international contracts with other countries or with international organizations.<sup>17</sup> In June 1976, at the thirtieth meeting of the CMEA Council the CMEA was officially instructed to conduct negotiations with the European Community.

### *2. The CMEA Draft for a Treaty With the EC (February 1976)*

An analysis of the CMEA countries' attempts to expand and institutionalize their economic relations with Western Europe indicates a concerted action. Shortly after phase I of the CSCE had ended in July 1975, CMEA's Secretary General established contact with the President of the EC Council (27 August, 1975). About six months after the signing of the Final Act of the CSCE (1 August, 1975), the CMEA submitted the draft for a treaty with the EC in Luxembourg (16 February, 1976). A comparison of this draft with the principles which have been formulated and agreed upon in basket 2 of the CSCE shows that the proposals made in the draft go beyond the text of basket 2 and largely correspond with those which were made by the socialist countries at the beginning of the CSCE. There is another important difference between CSCE and EC-CMEA negotiations: At the EC level, the socialist countries can propose concrete measures and for improving their economic relations with the West without having to discuss-as in basket 3 of the CSCE-problems in the humanitarian field. In its preamble the draft explicitly cites the CSCE Final Act and states that the contracting parties wish to expand and consolidate their economic relations for their mutual benefit at the bilateral as well as on a multilateral basis. This means that a framework agreement is proposed which is to be filled out by bilateral agreements between individual countries and groups of countries.

Some of the proposed subjects for negotiations should not be very controversial.<sup>18</sup> Whereas other demands delineate the ones for credits at best possible terms (Art. 10) and for reciprocal Most-Favoured-Nation treatment (Art. 11), although being dealt with at the CSCE, were not settled there.

The agricultural sector which was explicitly excluded from the EC's "model" agreement of 1974 is mentioned in Art. 9 of the draft. The draft does not explicitly exempt the joint trade policy of the EC.<sup>19</sup> However, Art. 11 tends to neglect the Commission's competence in this field by considering bilateral as well as multilateral settlements in questions of foreign trade.

### *3. The Response of the EC (November 1976)*

In November 1976, the EC Commission reacted by submitting its own draft for an agreement with CMEA to the officiating chairman of the CMEA Executive Council in Warsaw.

<sup>17</sup> In 1975 CMEA has concluded co-operation agreements with Iraq (4 July 1975) and Mexico (13 August, 1975) (CMEA-Iraq agreement in *Pravda* 5 July, 1975, No 186 p.6; CMEA-Mexico agreement in *Izvestija*, 15 August 1975, No. 190, p. 3).

<sup>18</sup> In Art. 3 of the draft the following subjects are mentioned: "Improvement of conditions for economic and trade policy cooperation between the member countries of CMEA and the EC: standardization, environmental protection, prognoses of production and consumption in agreed upon subjects". (Cf. the unofficial translation of the draft as published in: *Vereinigte Wirtschaftsdienste (VWD)*, No. 36, 1976, 21 February 1976, pp 1/7).

<sup>19</sup> Art. 13 of the draft states that the provisions of this treaty are not to touch upon the rights and duties of CMEA, EC and their member countries which result from other bi- and multilateral treaties and agreements.

The EC draft agreement is rather restrictive insofar as matters of trade policy, particularly the demand for Most-Favoured-Nation treatment and non-discrimination, are not mentioned. The argumentation runs basically along the same lines as during the CSCE: Instruments of foreign trade policy decidedly have diverse functions in CPE and in market economies; hence, realization of the principle of reciprocity would be very difficult. Additionally, in its letter of advice the EC refers to its offer of 1974 (to conclude trade agreements with individual CMEA countries) and stresses that its present draft provides for a skeleton agreement which does not exclude agreements between the Commission and individual CMEA members; the contents of such an agreement is limited by the existing asymmetry in material competences, as reflected by the EEC-Treaty and the CMEA-Statute, respectively. Finally, the EC rejects the mention of the CSCE Final Act in the CMEA draft as this would tend to give binding force to the CSCE recommendations.<sup>20</sup>

No mention is made of problems of credit availability and credit conditions in the EC draft. Rather, it concentrates on questions which should be less controversial politically, and where, in the judgement of the Commission, both organizations have equal competence to conclude contracts: Economic prognoses, statistics, problems of environmental protection, and standardization.<sup>21</sup> Intensification of information exchange, particularly in these areas, is to provide the basis for improved working relations between the two organizations and their member countries.

Since these four areas are mentioned in the CMEA draft as well, it is conceivable that an agreement between the two European integration systems could be reached.<sup>22</sup>

## V. THE ECE

The political conflicts of the post-war era as well as the polarization between East and West have hampered the development of normal or cooperative forms of economic relations. For the United Nations Economic Commission for Europe (ECE), created in 1947 as an all-European body for European economic cooperation and development, this meant that it had to be content with playing a minor political and economic role and did not therefore succeed in becoming the institutional forum for increasing economic relations and decreas-

<sup>20</sup> The listing of CSCE principles in the preamble of the CMEA draft does not mention basket 3, thereby neglecting one of the essentials of Helsinki, namely, equality of rank of all three baskets.

<sup>21</sup> Basically, these are problems which should be dealt with by the UN Economic Commission for Europe.

<sup>22</sup> If an agreement between the two blocs should be worked out it presumably would have to be an agreement that provides the basic framework for specific contracts between countries or economic agents (e.g. private industry in the West, foreign trade organizations, state enterprises or groups of enterprises in the East). With certain restrictions the 1973 treaty between Finland and CMEA might serve as a model for, such a skeleton agreement. (Cf. M. Baumer: Zur Multilateralisierung des Außenhandels der RGW-Staaten, op. cit., p. 155). Among other things this agreement provides for the establishment of a Cooperation Commission between Finland and CMEA to explore the potential for a multilateral economic and scientific technical cooperation. "The Cooperation Commission presents recommendations and makes decisions in consent with the Republic of Finland and those CMEA members interested in the subject under consideration". (Art. 2/3 of the COMECON-Finland treaty of 16 May 1973. Reprinted in *Ibid.*, p. 222). The principle of "interested" parties in such a skeleton agreement can have positive effects, particularly for smaller COMECON members in so far as they can, but need not, take part in specific cooperation agreements and can act according to their individual economic needs.

In questions of organization and procedures, the Cooperation Commission has decision-making power. As early as November 1973, five sub-commissions were set up in the areas of foreign trade, machine industry, chemical industry, transportation, and scientific-technical cooperation.

ing politico-economic conflicts in Europe.<sup>23</sup> This was primarily because of the failure of the 34 ECE member states to reach fundamental economic decisions "... due to the statutory basis of the organization according to which no member state can be compelled to implement ECE decisions if it withholds its approval. Thus insisting upon majority voting would only lead to tensions within the regional organization."<sup>24</sup>

In this context it has to be noted that not only most West and East European nations—including the USSR—are members of ECE, but the US and Canada as well.

Since 1954 ECE activities have been focused on the intensification of East-West trade, particularly by the preparation of European agreements on international trade jurisdiction and the standardization of export documents, the creation of ways and means to provide information on trading potentials, the elimination of obstacles to trade (tariffs and non-tariff) as well as the discussion of preconditions for multilateralization of trade and cooperation. During the last few years ECE activities have concentrated on the promotion of industrial cooperation, technical and scientific exchange, long-term economic projections, and problems of environmental protection.

In view of the strains imposed on it by East-West differences, the role of the ECE has remained restricted to the achievement of separate pragmatic solutions. This seemed to be the only way to ensure member states' willingness for collaboration.<sup>25</sup> CMEA countries considered the ECE as an appropriate forum to achieve economic objectives against politically motivated Western resistance. This helps to explain why ECE activities have commonly received little attention by Western governments.

As a consequence of the results of the Conference on Security and Cooperation in Europe (CSCE), the scope of ECE responsibilities and activities might increase, and the ECE might become the all-European organization providing the framework for quantitative as well as qualitative intensification of East-West politico-economic relations. In the Final Act of the CSCE, the participating nations declared their determination to pay due consideration to the provisions of this act, also as far as the ECE is concerned. In the following areas the ECE is distinctly called upon to expand and intensify its activities:<sup>26</sup>

Examination of ways for establishing a multilateral system for diffusing foreign trade laws and regulations (including their modification) among member countries.

Standardization of statistical nomenclatures;

The study of possibilities for trade promotion, including promotion of marketing.

Pavement of the way for industrial cooperation by means of

<sup>23</sup> A copious presentation of the early phases of ECE is given by G. Myrdal: *Twenty Years in the United Nations Commission for Europe*. In: *International Organization*, Vol. 23 (1968), No. 3, p. 617-628; cf. also ECE: *The Work of the Economic Commission for Europe 1947-1972*, E/ECE/831, New York 1972.

<sup>24</sup> K. Bolz/B. Kunze: *Wirtschaftsbeziehungen zwischen Ost- und West-Handel und Kooperation* (Economic Relations between East and West Trade and Cooperation); edited by CEPES, since anno et loco, p. 52 (translation by the authors).

<sup>25</sup> Cf. I. Bailey-Wiebecke/E. Chossudovsky: *Folgewirkungen der KSZE im multilateralen Bereich: Die Wirtschaftskommission der Vereinten Nationen für Europa (ECE) (The consequences of CSCE in the multilateral field: The Economic Commission for Europe)*. In: J. Delbrück/N. Ropers/G. Zellentin (Hrsg.): *Grünbuch zu den Folgewirkungen der KSZE (Consequences of CSCE)*, II. DGFK-Veröffentlichung, Bd. 3, Köln 1977 (forthcoming).

<sup>26</sup> *Schlusakte der Konferenz für Sicherheit und Zusammenarbeit in Europa (Final Act of the CSCE)*; *Deutscher Bundestag, Drucksache 7/3867*; passim.

informing interested parties and providing assistance in the preparation of cooperation agreements.

Promotion of the exchange of information and results by expanding multilateral collaboration in the area of technical and scientific cooperation and the organization of conferences and meetings of experts.

Inclusion of various aspects of environmental protection in its work.

Intensification of the work of the ECE Subcommittee on inland traffic and the standardization of traffic rules on inland water ways.

However, a precondition for realization of these rather modest goals is that West and East be prepared to supply the ECE with necessary information and competence. As far as more substantial projects of potential East-West cooperation are concerned, e.g., the creation of a joint energy network between West and East Europe, joint development of transportation systems, division of labor in technological research, the ECE is not mentioned in the Final Act of the CSCE.

## VI. GLOBAL INSTITUTIONS

The institutional organization of the world economy, drawn up by the industrialized countries at the end of World War II, began to show severe signs of malfunction, at least since the beginning of the 1970's.<sup>27</sup> Free trade, being the basic postulate underlying the "International Monetary Fund" (IMF) and the "General Agreement on Tariffs and Trade" (GATT) has failed to prove its adaptability to the development goals and economic structures of the Less Developed (LDC) and the State Trading countries. Furthermore, the creation of regional economic groupings, the increasing importance of non-tariff barriers to trade, the introduction of foreign exchange and convertibility restrictions, the abandonment of the fixed-parity system have contributed to the collapse of the traditional order, within the Western world itself. Whereas the LDC's "Group of 77" energetically express their conceptions about a reorganization of the international economic order (mainly within the UN Conference on Trade and Development (UNCTAD)), the CMEA countries have been rather quiet on the subject.

### 1. GATT

Among the existing multinational economic organizations GATT seemed to have the greatest attraction for East European countries: all CMEA countries except the GDR and the USSR (Bulgaria has observer status) are now members of GATT. This may in part be explained by the relative success of the Kennedy Round on multilateral tariff reductions. But more important may have been that GATT is increasingly occupied with non-tariff barriers to trade which have been affecting international trade relations to growing degree. In general, non-discrimination and MFN-treatment were the advantages to be derived from GATT membership, thereby improving

<sup>27</sup> The USSR and some East European countries participated in the formulation of the economic order after World War II. The USSR participated in the preparation of the "International Currency Agreement" and the "International Trade Organization". In the wake of increasing tensions between East and West, however, the socialist countries ceased collaborating, canceled their membership, or—as was the case with ITO—the considered regulations never came into effect.

the foreign trade prospects (e.g., import prices, competitiveness on the world market) of the East European countries.

The main agreements put forth against membership of CMEA countries were the centrally-planned and discriminating character of their economies.<sup>28</sup>

The basic principles of the GATT system are oriented on the classical postulate of free trade between capitalist countries and codify the trade practices of developed market economies (if one ignores Chapter IV of Trade and Development which was added in 1965 and which accords developing countries certain preferences).

On the other hand, with the CPE's foreign trade monopolies, quantitative measures are not the exception, but rather the rule: the import plan, which is directly related to quantities, structure and goals of the national economic plan, constitutes the key element of foreign trade planning, although the economic reforms have resulted in modified structures. Customs duties are of minor importance, with being a possible exception:<sup>29</sup>

As a socialist manifestation of regional integration, CMEA differs from customs unions or economic communities (such as the EC) or free-trade zones (LAFTA or EFTA) in that the protective measures it employs against foreign imports are not based upon customs barriers, but rather it simply does consider or ignores offers from abroad.

Western government stressed repeatedly that "effective reciprocity" has to be insured before MFN treatment could be extended to State Trading countries. Due to political changes accompanied by attempts of CPE countries to intensify their economic relations with the West, membership was finally granted to them.

Since the CSSR was one of the founding members of GATT in 1947, Poland's accession in 1967 served as a precedent.<sup>30</sup> As Poland, being a centrally-planned economy had no tariff system, specific terms for accession had to be worked out. It was agreed that instead of granting tariff concessions, Poland would commit itself to an annual seven percent increase of its imports from the other GATT members. Even though controversies arose on how to compute this percentage,<sup>31</sup> Rumania's application for membership (July 1968) was accepted in November 1971. The conditions for accession<sup>32</sup> provided that other GATT members pledged to reduce their tariffs vis-a-vis Rumania to the level already applied in their mutual trade, i.e. tariff discrimination in relation to Rumania was "officially" lifted. In return, Rumania pledged to increase its imports from other GATT members at least at the same rate as total imports. The mode worked out for Hungary's accession<sup>33</sup> corresponded to the basic principles determining arrangements between the socialist and other GATT countries; qualitative concessions against cessation of quantitative restrictions. However, it has to be pointed out that Hungary disposed of a functioning tariff

<sup>28</sup> Cf. J. Pinder: EWG, EFTA und COMECON; in: H. Reiber (ed.), *Europas Zukunft zwischen Ost und West*; Baden-Baden 1971, p. 126.

<sup>29</sup> P. Wiles argues that the CMEA countries used tariff solely as an instrument for negotiations and propaganda: they were used to reach MFN treatment from the West. Their introduction and their abandonment had only declamatory values. Cf. P. Wiles: *Communist International Economics*, Oxford 1968, p. 220.

<sup>30</sup> Cf. Protocol of Accession of Poland; in GATT; *Basic Instruments and Selected Documents*, Fifteenth Supplement, Geneva 1968, p. 46.

<sup>31</sup> Cf. H. Schaefer: *East European Relations with GATT*; in: RFE-Research, *Economics* No. 5 18, November 1971, p. 3.

<sup>32</sup> Cf. GATT: Protocol for the Accession of Romania to the GATT, Geneva, 15 October 1971.

<sup>33</sup> Protocol of the Accession of Hungary; in GATT; Document L/3908, 14 August 1973

system as a consequence of its economic reforms since 1968. Thus potential mutual granting of Most-Favoured-Nation status was an element in the entry negotiations.<sup>34</sup>

The intense discussion about the problems of extension or denial of MFN to socialist countries cannot distract from the fact that the economic meaning of this clause has diminished due to a generally lower tariff level and due to the growing non-tariff trade barriers.<sup>35</sup> Hence, the repeated demands of the socialist countries for granting of MFN in the last analysis amount to the demand for non-discrimination.<sup>36</sup> It is still undetermined, however, what economic gains the CPE's can derive from MFN.<sup>37</sup> A quantitative evaluation of these gains could be the basis for ensuring "reciprocity" of mutual economic concessions<sup>38</sup> which is being demanded by the Western countries.

There are indications that GATT's "Tokyo Round" might lead to a softening of the principles of MFN and reciprocity in favour of the LDC's. This would necessitate CMEA members of GATT to associate themselves with one or the other group which in turn could put pressure on them to underpin their verbal support of the LDC's demands by material concessions. The Western members of GATT might then be in a position to pursue a more unified approach vis-a-vis the CPE's, whereas the latter might be induced to coordinate their foreign trade policy.

## 2. IMF

Whereas GATT is to promote the expansion of world trade by reducing trade restrictions and selective preferences, the International Monetary Fund pursues similar objectives in the monetary field by promoting convertibility of currencies, balance-of-payment equilibrium, and coordinated policies with regard to exchange rates.

The rapid growth of East-West trade and the expansion of East-West contacts seem to have facilitated chances for CMEA countries to become members of the International Monetary Fund. The IMF provides its more than 120 member states with credits at favorable terms for compensation of temporary balance-of-payments deficits. Twenty-five percent of a country's subscription to the Fund must be paid in gold upon accession. As these convertible means can indirectly be obtained from the Fund itself, applicants are not confronted with any severe financial strain. Simultaneous membership in the World Bank (IBRD) enables countries to obtain long-term credits in convertible currencies at favorable terms.<sup>39</sup>

<sup>34</sup> Cf. J. Reuland: GATT and State-Trading Countries; in: *Journal of World Trade Law*, Vol. 9, No. 3, May/June 1975, p. 318.

<sup>35</sup> Cf. G. Schiavone: The Most-Favoured-Nation Clause and East-West-Trade-Limitations and Prospects; in: *La Comunita' Internazionale*, No. 4/1974 (Padova), pp. 651; P. M. Wijkman: GATT and the New Economic Order; in: *Intereconomics*, No. 8/1975, p. 247.

<sup>36</sup> This demand is raised by the CPE's not only in bilateral negotiations (e.g. USSR-USA), but at the regional (e.g. CSCE, CMEA-EC relations), and the global level as well (e.g. discussions about the Charta of Economic Right and Duties in 1974).

<sup>37</sup> T. Wolf summarizes the results of his work in this field as follows: "While there is little persuasive evidence that in receiving MFN, the socialist countries would in fact be able to realize a significant short-term expansion in their exports to the U.S., it is clear that the effect would in any case be positive, and many East Europeans have stressed the dynamic effects of the goodwill and certainty which would be created by the granting of MFN." T. A. Wolf: *New Elements in US-East-West-Trade Policy*, Forschungsberichte des Wiener Instituts für internationale Wirtschaftsvergleiche, No. 19, June 1974, p. 28.

<sup>38</sup> Cf. C. F. Bergsten: *Future Directions for U.S. Trade Policy*; in: C. F. Bergsten (ed.): *Toward a New World Trade Policy: The Maidenhead Papers*, Lexington-Toronto-London 1975, p. 348; and C. F. Bergsten: *Completing the GATT—Toward New International Rules to Govern Export Controls*; *British-North American Community*, 1974.

<sup>39</sup> One per cent of a country's share in the World Bank must be deposited in gold or dollars, nine per cent must be paid in national currency. The remaining 90 per cent is regarded as guarantee contract and actually amounts to a joint liability of the member states for the obligations of the World Bank, Cf. A. Zwass, *Zur Problematik . . .* op. cit. p. 134.

The Soviet Union actively participated in preparations for the "International Currency Agreement" during World War II but did not sign the Bretton Woods agreement. Poland and the CSSR, two founding members, left the IMF at the beginning of the 1950's.

Currently, Rumania is the only CMEA member of IMF.<sup>40</sup> The main reason for Rumania's accession to IMF and World Bank was probably to increase its credit ceiling. Rumania enjoys a special status within CMEA as far as foreign policy is concerned, which has enabled it to act more independently than other members.

Rumania's contribution, i.e. Rumania's quota in the IMF, amounts to 190 million special drawing rights (SDR). Twenty-five per cent of the quota (47.5 million SDR's) were paid in gold. Thus, Rumania was not granted any special advantages. The rest of Rumania's IMF quota was provided in national currency. Rumania is participating in the special drawing rights account at a rate of exchange which was provisionally set at one US dollar=14.38 leu (SDR=17, 3 leu). Rumania drew its gold tranche in the amount of 47, 5 million SDR's in May of 1973. Thus, the IMF held 100 per cent of the quota in leu. At the end of 1976 Romania's net drawings amounted to 285 Mio SDR.<sup>41</sup>

In accordance with Art. VIII, Par. 5, of the IMF statutes, candidates for admission must furnish detailed information with respect to their economic situation and development (gold production and stocks, foreign trade data, balance of payments data, national income, price indices and similar information). It is not known what agreements were made between Rumania and the IMF with respect to supplying this information. However, Rumania has not yet completely been included in the official IMF statistics which were available at the beginning of 1977.

The capital stock subscribed by Rumania in the World Bank amounts to 1,621 shares with a nominal value of 162.1 million US dollars (US dollar before the conversion of May 1972). In the first two years of its membership, Rumania was granted investment credits in the amount of over 250 million dollars.

Rumania's application for admission was approved on the basis of Art. XIV of the IMF statutes. In accordance with the latter, economically weak members have the right to restrict current transactions during the transition period. This article makes no distinctions with respect to the motives underlying the payment restrictions. CPE's without convertible currencies can therefore also take recourse to this article.

The collapse of the Bretton Woods agreement and the uncertain future of the international monetary system may have diminished the incentives to join the IMF at present from the standpoint of

<sup>40</sup> In 1968, there were indications for a Hungarian application for IMF membership. The main objective of this step did not seem to be to raise the credit ceiling—as was later the case with Romania—but rather to benefit from political implications of IMF membership. No definite statements are available why Hungary did not pursue its application further. But it is surmised that Hungary accorded priority to its internal economic reform (which was started at that time) and was cautious against overstraining Soviet (as well as domestic conservative) tolerance by embarking on external adventures as well. Regarding Hungary's accession to the IMF, the Vice President of the Hungarian National Bank, H. Fekete, said in late 1973 that Hungary would be hard put to join a monetary system that did not really exist. He said the accession would not be merely a financial question: "Without a general political arrangement, such a step is out of the question and without the other socialist countries, Hungary will not take action." *Vilaggazdasag*, No. 202, 19 October, 1973, p. 1; quoted from *Die Wirtschaft des Ostblocks*, No. 12, 1973 (translation by the authors).

<sup>41</sup> Cf. IMF—International Financial Statistics, Vol. 30, No. 1 (1977), p. 8.

CMEA countries. The chance to integrate the East European countries into the worldwide monetary system which was being built after the end of World War II was missed. But the present situation seems to be appropriate for a second attempt as it should be easier to take into account the specific requirements of socialist countries while formulating a new monetary system as opposed to the modification of an already-existing one.

In the process of East-West rapprochement, both sides seem to be interested in reaching a mutually acceptable international monetary order. But this can only be achieved if, on the one hand, processes of price formation are made compatible among CMEA countries and adjusted to the price structure on the world market combined with the objective of reaching at least partial convertibility and if, on the other hand, the regulations of a new monetary system take into account the specific characteristics and needs of centrally-planned economies. In other words, the scope of the provisions must be wide enough to encourage the participation of non-capitalist economies.<sup>42</sup>

During the last few years, worldwide inflation has hampered the formulation and acceptance of a new monetary order as much as the continuing controversy between the industrialized and the developing countries over a "proper" distribution and redistribution of economic resources. Thus, in a phase of monetary unrest and difficult negotiations greater participation of CMEA countries could create additional problems, especially since the conflicts of interest between developing and industrial nations may be exacerbated by the entry of State-Trading countries.

The formulation and acceptance of a new monetary order is closely linked to a solution of the fundamental problems of the industrialized countries' economic relations with the less developed countries. However, in April 1976 the Council of Governors agreed to change the statutes of the IMF in order to accord them better with economic reality, and in order to give some perspectives on the future functioning of the monetary system.

The characteristics of the envisaged form of the future international monetary system will now be examined in order to determine whether the membership of CMEA countries in the IMF would be encouraged by the new system or not.<sup>43</sup>

The first innovation of the new system that of fixed but adjustable exchange rates, has the advantage that relatively little currency reserves must be held in order to support a national currency. However, since the IMF can provide credits to needy members, the disadvantages of flexible exchange rates, weigh more heavily for the State-Trading countries. These disadvantages are primarily based on the fact that long-term economic planning is further complicated by unstable exchange rates.

The second characteristic of the new system, the planned replacement of the main reserve currencies (primarily the U.S. dollar) and of gold as main reserve units by Special Drawing Rights, will presumably concur with the interests of the smaller East European countries.

<sup>42</sup> For example, a modification of Article VIII of the IMF statutes might be needed, so that it no longer provides for unlimited international capital flows (which are anyway restricted in many parts of the West today).

<sup>43</sup> Cf. J. Witteveen: Das internationale Währungssystem gewinnt an Konturen; in: Finanzierung und Entwicklung, Vol. 13 (1976), No. 3, p. 7.

This is because SDR's are distributed by the IMF to its members (detailed criteria still have to be worked out) which reduces the obligation to hold large stocks of currency reserves. In the longer run, East European countries would probably like to get their currencies into the weighted "basket" determining the value of SDR's. However, some basic problems of convertibility of East European currencies would have to be tackled first.

Lastly, arrangement of details and formulation of the IMF's options for the intervention in the control of liquidity and the processes of adjustment could be influenced and shaped by CPE countries. By this, the objectives of CMEA countries as to the working mechanism of a new international monetary system could be more easily realized.

The new system is to be "multipolar" in character, i.e. it permits diversifications according to the interest of participating countries and groups of countries. It could thus constitute a worldwide framework within which special arrangements could be made on the regional level; the long-term goal of a uniform arrangement is not abandoned, however.

The membership of CMEA countries in the IMF seems conceivable on this basis. One reason for this is that the problem of convertibility seems susceptible of solution, and moreover a modified convertibility concept could be applied for the East. For instance, the Soviet Union, while maintaining the foreign trade monopoly and by regulation the flow of goods, services and capital, could effect Ruble exchange operations with Western banks, i.e., it could achieve the financial convertibility of the Ruble.<sup>44</sup> In a reformed monetary system, the Ruble could prove to be functional even if convertible only to a limited extent.

Should the Soviet Union become a member of IMF it would, thanks to a high quota, be able to nominate an executive director, i.e., it would participate directly in all decision-making processes and would have a veto right.<sup>45</sup> The ensuing shift in the allocation of votes in the board of directors would under present circumstances mean that the EC's qualified minority status would be repealed. It can be expected that should the Soviet Union join the IMF, the distribution of quotas would have to be totally revised, just as the qualified minority rule.<sup>46</sup>

The prospect of benefit from the Fund's credit and financing facilities constitutes the main incentive for State Trading countries to consider an adaption to the international monetary system. However, it has to be kept in mind that questions of price formation and determination of the role of money touch upon the very root of the political economy of socialism and its underlying ideology.

### 3. UNCTAD

GATT and the IMF are both multinational organizations which use admission conditions and obligations to constrain their members to adhere to a certain behavior toward one another. Such binding stipulations are not existing for the United Nations Conference on

<sup>44</sup> Cf. P. Wiles: "On Purely Financial Convertibility", in: *Banking, Money and Credit in Eastern Europe: NATO Colloquium*, ed. Y. Lailan (Brussels, 1973), pp. 119-125.

<sup>45</sup> Even if all CMEA states, with the exception of the U.S.S.R. and the GDR, would join the IMF, the distribution of quotas would not be changed decisively: These countries would not be able to nominate an executive director and thus would only be indirectly involved in the decisions, i.e. by a deputy.

<sup>46</sup> Independent of a possible Soviet entry, the increased economic and political weight of the OPEC countries has led to a redistribution of quotas within the IMF.

Trade and Development (UNCTAD). The latter represents a forum which was established in the context of the United Nations' First Decade of Development. All UN members and members of UN organizations can participate in UNCTAD.

The original task of UNCTAD was the development of world trade. Since 1964, however, UNCTAD is mainly concerned with the problems of LDC's and is used by the "Group of 77" (which now consists of about 110 LDC's) as a forum to articulate their economic demands. As long as these demands were mainly directed towards the capitalist countries they were supported by the USSR and her allies. From a Soviet point of view accomplishment of these demands would strengthen the position of the socialist countries. In supporting the LDC's demands at UNCTAD, the CPE's expected in return to get support from the LDC's as far as socialist conceptions on East-West economic relations are concerned.

This strategy seemed to work. In the "Declaration of Lima" of November 1971,<sup>47</sup> the "Group of 77" differentiated between "market economies" and "socialist countries of Eastern Europe." At the Manila meeting in February 1976, market economies and CMEA countries were dealt with separately. At the same time, however, the "Group of 77" stressed the point, that they expect more development assistance from the socialist countries and better support for their demands for a new international order.

Specifically, the "Manila Declaration" lists 15 points of complaint as far as CMEA countries are concerned. The most important ones are the following:<sup>48</sup>

The share of development aid in GNP is too low (approx. 0.01 percent.)

Aid is mainly granted on a bilateral level.

The more developed CMEA countries are not sufficiently promoting the marketing and consumption of the LDC's products.

Preferential tariffs are not granted for imports from LDC's.

The CMEA countries are quite passive when it comes to take up concrete measures for realizing the declarations and principles.<sup>49</sup>

In trade with CPE's the same problems are encountered as in trade with the industrialized market economies: use of world market prices and other instruments of the capitalist trading system.

Fundamental problems of the less developed countries, like stabilization of export earnings have not been dealt with by GATT (which the LDC's label as a "rich man's club"<sup>50</sup> with rules designed and operated only for the benefit of the wealthy industrialized countries). The lasting discussions of these problem in UNCTAD, however, may have caused the industrialized countries to earnestly consider the introduction of some sort of raw material program.

<sup>47</sup> Cf. The Declaration and Principles of the Action Programs of Lima; adopted on 7 November 1971; UN Doc. MM/77/II/11.

<sup>48</sup> Cf. Manila Declaration and Program Action; UNCTAD, Doc TD/195, February 12, 1976.

<sup>49</sup> The "Joint Statement" which the CMEA nations submitted at UNCTAD IV and which provides for a number of beneficial measures, is a non-binding declaration of intent. Cf. UNCTAD; Joint Statement by Socialist Countries at the fourth session of UNCTAD, TD/211, May 28, 1976.

<sup>50</sup> E. Wyndham-White (former Secretary-General of GATT) put it this way: Negotiations in Prospect, in: C. F. Bergsten (ed.): *Toward a New World Trade Policy*, cit, op., p. 337.

In this sense it seems conceivable that UNCTAD could play a more important role in a new international economic order, e.g., by closer cooperation with the IMF and GATT.<sup>51</sup>

## VII. CONCLUSIONS AND PERSPECTIVES

Some possible implications of closer institutionalized East-West economic relations for the East European countries and the Soviet Union can be stated as follows. The process of eliminating Western economic discrimination may be promoted while the CMEA countries may be compelled to remove trade barriers themselves. This would contribute to continued growth of East-West trade (gains from division of labor, larger markets, etc.). Membership or greater participation of CPE countries in international economic organizations, as well as bilateral and multilateral agreements could promote international economic interdependence, and thereby help to reduce the risk of conflicts and contribute to the improvement of international relations.

It cannot be expected that the Western countries fully endorse a far-reaching institutionalization of economic relations at the multinational level as long as they put first priority on the realization of national objectives which may very well conflict with those of other capitalist countries. Assuming that the West European integration process will continue it seems possible, however, that in the long run such competitive positions might gradually be replaced by a more unified approach.

It is not surprising, however, that the socialist countries have political reservations against an integration into economic organizations dominated by the West. These institutions might jeopardize the socialist system if their interests are not sufficiently taken into account. Yet, appropriate representation and consideration of national economic requirements seem to be a problem in intra-CMEA relations as well. This is illustrated by the isolated extra-bloc initiatives of some East European countries. These initiatives can be looked upon as efforts to overcome the traditional economic bilateralism.

Generally speaking, increasing contacts by socialist countries with organizations of the Western world economy may promote economic and social development in CMEA countries. The Soviet Union seems to be interested in improved access of its CMEA partners to Western markets as it directly and indirectly might derive benefits for itself (social stabilization in Eastern Europe through better consumer satisfaction via intra-bloc imports, acquisition of advanced technologies, and higher growth rates).

It should not be overlooked that closer institutional cooperation might entail problems of delimitation which could develop particularly within CMEA. A greater opening toward the West may in the long run impair genuine "socialist" objectives due to effects of penetration and demonstration inherent in this process and could thus in fact provoke social and ideological conflicts within and among the socialist countries.

<sup>51</sup> In his speech at UNCTAD IV in Nairobi, the Soviet foreign trade minister Patolichev did not want to exclude the possibility that UNCTAD may become an International Trade Organization which has competence over GATT problems. (Cf. *Außenhandel*, No. 7, 1976, p. 8). This argumentation reminds of the Soviet proposal for the creation of an International Trade Organization which was made to UNCTAD in 1964 and which explicitly mentioned the Havana Charter of 1948. (Cf. UNCTAD, E/CONF. 46/50 and E/CONF. 46/51 of 5 February 1964).

A further result of integrating CMEA countries in world economic organizations can be found in the fact that the institutions which were originally founded by the industrialized countries could cease to fulfill their original purpose (uniform articulation of interests to the outside, obligatory solution of problems within) because of divergent interests and economic systems. Under these conditions, these organizations would form a generally acceptable and thus broad context within which various regional and/or multipolar interest groups agree upon binding and functionable arrangements. For this reason it would seem from the point of view of the Western industrialized nations that the inclusion of countries with lower levels of development and/or other social systems would only be plausible if at the same time an institutionally secured and strengthened formulation of their own interests can take place, for instance, within separate organizations (such as OECD), or by building fractions within global organizations (such as the Club of Ten within the IMF).

In this context it seems conceivable that the OECD could cover institutionally the following subjects:

- Formulation of a joint strategy vis-a-vis CMEA countries and development of joint regulations for the conclusion of trade and cooperation agreements with them.

- Safeguarding of reciprocity in trade relations with CPE's;

- Determent of unfair trade practices (e.g., dumping).

- Evaluation of possible effects of indebtedness.

- Promoting multilateralization of East-West economic relations, and coordination of bargaining positions within multinational organizations.

- Effectuating that the CMEA countries bear their share of obligations to the Third World.<sup>52</sup>

Institutional reglementations of East-West economic relations could also be embedded in a new international order. In this context, the historical ideas on the creation of an International Trade Organization could be reconsidered. Such an organization could not only work on the solution of GATT problems, but also on problems of capital transfer ("GATT for investment") and raw material supply.

Chances for such developments however seem to be slim.

<sup>52</sup> Cf. H. D. Jacobsen: Die Entwicklungen der wirtschaftlichen Ost-West-Beziehungen als Problem der westeuropäischen und atlantischen Gemeinschaft (The Development of East-West Economic Relations as a Problem of the West-European and Atlantic Community), SWP—S 242, Ebenhausen, 1975, p. 114. In June 1976, the former U.S. Secretary of State proposed to the OECD an East-West trade policy which would strengthen the role of OECD in East-West economic relations.

# INSTITUTIONAL DEVELOPMENT AND THE JOINT COMMISSIONS IN EAST-WEST COMMERCIAL RELATIONS

BY SUSANNE S. LOTARSKI

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## I. INTRODUCTION

Over the last decade, East-West commercial exchanges between market and non-market economies have increased in both volume and complexity. From simple trade transactions, these exchanges have evolved to include licensing, co-production, joint marketing, and even joint equity ventures. Along with these changes in the size and character of commercial transactions, there has been a transformation of old, creation of new, and general proliferation of institutional arrangements. In the commercial sector, industrial cooperation agreements have become the *dernier cri* of contractual relations between Western companies and Eastern committees or enterprises, and a host of joint chambers of commerce or economic committees have sprung up between Western and Eastern industrial associations. The comparable institutions on the government-to-government level have become the cooperation agreements and joint commissions.

At the end of 1976, there were in existence 128 agreements on economic, industrial, scientific and technical cooperation between the twenty Western market economy and the seven Eastern planned economy countries which are members of the U.N. Economic Commission for Europe.<sup>1</sup> The number of joint commissions between these

<sup>1</sup> United Nations, Economic Commission for Europe, *Long-Term Agreements on Trade, Economic, Industrial, Scientific and Technical Cooperation* (Secretariat Note), TRADE/R.334/Rev. 1, 16 November 1976, p. 1.

countries probably is only slightly smaller. Given the seeming popularity of the joint commission institution and the resources committed to it by the governments of East and West, a number of questions inevitably arise. Where do the joint commissions fit into the overall context of East-West commercial relations? Have they contributed to the elimination or reduction of the barriers to trade posed by the fundamentally different economic systems of East and West? To what extent have they responded to private sector interest in increased trade, and to what extent have they stimulated it? What types of problems have they effectively resolved, and what matters have proven not suitable for commission action? What more might the joint commissions still accomplish?

Two years ago, the nations which are the parties to these commissions concluded the Conference on Security and Co-operation in Europe by adopting a Final Act which set out guidelines and principles for economic and commercial relations among the participants. In many instances, the declared purposes of the joint commissions parallel the objectives set forth in Basket Two (Co-operation in the Field of Economics, of Science and Technology and of the Environment) of the Final Act. In some instances, the Act even indicates the joint commissions as suitable bodies for encouraging the envisioned cooperation. How then might the joint commissions contribute toward furthering the objectives of the Helsinki Accords?

In addressing these questions, this paper will first review the experience of the other Western parties to joint commissions and then focus in greater detail on the American experience with the three joint commissions the United States has established in the commercial sphere with the U.S.S.R., Poland and Romania.

## II. THE EXPERIENCE OF THE INDUSTRIALIZED WEST

### *Establishment and Purposes of Joint Commissions*

Although trade commissions between the countries of the industrialized West and the Eastern European countries originated in the 1950's, it was only in the mid-1960's that joint commissions began to develop in their present form. It was then that traditional trade agreements increasingly came to be supplemented by science and technology cooperation agreements, and later by long-term "umbrella" agreements for economic, industrial, scientific and technical cooperation.<sup>2</sup> Whereas in the late 1960's most of the agreements being concluded were concerned with trade, by the mid-1970's the economic, industrial, scientific and technical cooperation agreements achieved predominance.<sup>3</sup> A report of the Economic Commission for Europe noted that as of November 1976, there were in existence 94 trade agreements and 128 agreements on economic, industrial, scientific and technical cooperation between the Western and the planned economy members of the Commission.<sup>4</sup> Most recently, the umbrella cooperation agreements are being supplemented by "programs" for economic, industrial and technical cooperation.

<sup>2</sup> There are numerous variations in the formal titles of these agreements, which may include all four types of cooperation (economic, industrial, scientific, and technical) or only two or three.

<sup>3</sup> United Nations, Economic Commission for Europe (ECE), *Long-Term Agreements on Economic Co-operation and Trade* (Secretariat Note), TRADE/302, 25 October 1974. The entrance into force of the European Economic Community's common commercial policy concerning the negotiation of trade agreements undoubtedly contributed to this shift.

<sup>4</sup> ECE, *Long-Term Agreement*, *op. cit.*, p. 1.

It is this elaborate network of closely related and often overlapping agreements which has spawned the complex body of implementing structures known as joint commissions. Most of these agreements, whether concerned with trade or with economic, industrial, and technical cooperation, provide for the establishment of joint commissions to supervise their implementation. Many of the joint commissions originated from the provisions of trade agreements and were responsible for drafting the annual trade protocols specifying levels and commodities of trade. As the additional agreements were concluded, the scope of the joint commissions' functions usually was broadened to encompass the new agreements. In rarer instances additional commissions were created to facilitate the implementation of cooperation agreements.<sup>5</sup> Where no joint trade commission already existed, the signing of a cooperation agreement usually involved the creation of a joint commission.

The transition from trade agreements to cooperation agreements involved more than a change in nomenclature. Whereas trade agreements were essentially prescriptive, with each of the parties undertaking specific obligations such as to accord most-favored-nation treatment to the exports of the other, the cooperation agreements are more hortatory. The signatories assume few concrete obligations, but rather undertake to exert their best endeavors toward fulfillment of the objectives of the agreement. Hence the prevalence of terminology such as "facilitate," "encourage," and "promote" in these agreements.

There has been a corresponding change of emphasis in the functions of the joint commissions. Whereas under the trade agreements the joint commissions tended to be treated essentially as fora for the consideration of complaints between the two parties, the commissions have now been given a more positive mission, stimulation of trade and commercial cooperation. Their terms of reference thus foresee them framing measures to facilitate cooperation, defining the forms of cooperation which might be pursued, and determining the branches of production which might be of interest.

Along with the expansion of the scope of commission endeavors, there has been a broadening of representation on the commissions. Delegations of the respective countries now include not only government officials, but also representatives of their industries and research institutes. This reflects the basic characteristic and limitation of the cooperation agreements and the joint commissions which oversee their implementation. These institutions can only create the possibilities and framework for commercial cooperation. They cannot negotiate or conclude the specific contracts which would bring about the envisioned cooperation.

Although bilateral commissions are not a new phenomenon in international relations, having previously been created for specific purposes such as fisheries or boundaries or between a few selected partners such as the U.S. and Canada, joint commercial commissions have proliferated and become identified primarily as an institution of East-West trade. There is evidence, however, that the joint commission concept is gaining acceptance beyond the East-West trade

<sup>5</sup> For instance, Canada and the Soviet Union created two commissions, the Mixed Commission on Cooperation in the Industrial Application of Science and Technology and the Joint Consultative Commission on Trade.

context. There is a growing number of joint commissions between the countries of Eastern Europe and those of the Third World. Industrialized Western countries also have begun participating in joint commissions with countries from other geographic areas such as the Near East.<sup>6</sup>

### *Organization*

All the joint commissions, despite individual variations, operate in a fairly similar manner. The organization and responsibilities of each commission are usually set out in a separate document linked with the long-term agreement. These terms of reference define the authority for the creation of the commission, the scope of its activities, the possibilities for creating working groups, and administrative procedures.

The commissions normally meet once a year for two to five days. On the average five to six persons participate from each country, although some commissions include as many as fifteen or twenty from each side. Each country's delegation is headed by a senior government official, such as the minister or deputy minister of either foreign trade or another economic agency, who cochairs the commission session.

Generally, all the fields of economic activity defined in the bilateral agreements are within the competence of the joint commission, although additional subjects may be considered by mutual agreement of the parties. A typical commission agenda would include: (1) review of the general economic situation in the two countries; (2) review of developments since the last session of the commission; (3) discussion of on-going cooperation projects; (4) possible new cooperation projects; (5) other questions.

Working groups are an integral part of the commissions and carry out the greater part of the practical work upon which the decisions of the commissions are based. Sessions of the commission proper involve an exchange of views and resolution of issues at the highest official level. Each side informs the other of what it sees to be the desired direction of development in bilateral commercial relations, the policy issues of primary importance, and the particular projects, either on-going or under negotiation, of greatest interest. The Commission creates and defines the terms of reference of particular working groups. The working groups in turn submit recommendations to the Commission for action on matters beyond their jurisdiction or on matters on which they have been unable to resolve differences.

### *Mixed Commissions*

Most of the joint commissions are "mixed commissions" in the sense that they are a "mix" of government and industry. Businessmen participate alongside government officials in both the commission and its working groups or at least in the working groups. The way in which industrial associations and private businessmen are selected and participate in the commissions reflects the particular relationship between government and industry in the particular Western country.

<sup>6</sup> Since 1974, the United States, for instance, has established joint commissions with Egypt, Israel, Jordan, Saudi Arabia and Tunisia. See Stephen D. Hayes, "Joint Economic Commissions as Instruments of U.S. Foreign Policy in the Middle East," *The Middle East Journal*, Vol. 31, No. 1 (Winter 1977).

The private sector has played the greatest role in the joint commissions in those Western countries where there has been a long tradition of cooperation between industry and government, such as West Germany, or where the government exerts a strong influence on the private sector, as in France. The organization of industry itself also influences the nature of private sector participation. Where industrial associations have historically served as a vehicle for mobilizing industry along sectoral lines, channeling information, and providing a link between government and industry, these federations have become an integral part of the mixed commission mechanism. In Britain, for example, the Confederation of British Industry (C.B.I.) had established twelve joint working groups with the Soviet State Committee on Science and Technology before the mixed commission was established, and currently the C.B.I. and its member federations provide staff for the commission's working groups, participate in nominating company representatives, canvas firms to obtain their views, and disseminate information.

On the Eastern side, the representatives of industry are usually officials of industrial ministries, their research and design institutions, and the state committee on science and technology, and perhaps representatives of foreign trade organizations. Matching the interest and expertise of the Eastern and Western industry participants in the working groups, especially sectoral ones, is not always an easy matter. The Western businessmen may be more interested in the commercial questions of discussed projects, while their Eastern counterparts come prepared to look at the technical aspects. "We have found that, as presently constituted, the working groups often bring together Soviet technicians and Canadian salesmen who talk at cross-purposes," reported the investigators of the Canadian-Soviet Commission.<sup>7</sup> The Eastern delegations sometimes include fewer "industrialists" or managers of end-user enterprises than the Western businessmen might desire.

### *Working Groups*

Working groups may be either permanent or *ad hoc*, depending on the continuing importance of the problem. There are two types of working groups—*functional* groups which consider questions such as financing, industrial cooperation, agricultural trade, patents and trade regulations, and *sectoral* groups which focus on the possibilities for cooperation in specific industries such as mining, metallurgy, engineering, chemicals, food processing, or textiles. The number of working groups varies from commission to commission and even within the same commission over time. The Canadian-Soviet Mixed Commission on Cooperation in the Industrial Application of Science and Technology, for instance, has established eight working groups, while the Franco-Soviet Mixed Commission has fourteen. Many commissions have two or three functional working groups and set up *ad hoc* sectoral groups as interest is generated.

<sup>7</sup> I. A. Litvak and C. H. McMillan, "Intergovernmental Cooperation Agreements as a Framework for East-West Trade and Technology Transfer," in Carl H. McMillan, *Changing Perspectives in East-West Commerce* (Lexington, Mass.: D. C. Heath & Co., 1974), p. 169.

*Sectoral Groups*<sup>8</sup>

The sectoral working groups are essentially mechanisms to bring together potential partners from East and West. Particular Western governments play a greater or lesser role in the activities of these working groups, but generally the role of the Western government in the sectoral groups is facilitative rather than directive.

Sectoral groups are formally charged with studying specific problems in technical areas, establishing the framework for private cooperative agreements, and planning technical exchanges and trade missions. For the Western businessmen the primary motivation for participating in such meetings has been to gain information about the Eastern markets and other necessary commercial information and access to decision-makers and end-users as a means to making sales.

The working groups have proven most effective in helping Western businessmen to identify key Eastern decision-makers in production sectors and establish personal contacts with them. They have done this through the working group sessions themselves, the plant visits often organized in conjunction with a working group meeting, and the seminars and trade missions organized through their initiative. While not eliminating them totally, the working groups have helped to reduce the institutional barriers interposed by some Eastern countries to direct contacts by Western firms with Eastern producing enterprises and research and development institutes. Participation in the working groups is particularly useful for small or medium sized companies for whom independent pursuit of contacts may be difficult and expensive. Contacts with Western industrialists probably have proven useful to the Eastern participants for whom the identification of interested Western firms to contact may prove confusing even with the accessibility of Western firms to such contacts.

The working groups have been marginally effective in accomplishing the exchange of detailed commercial and project information. The interests of the two sides in different types of information and the nature of the working groups contribute to this. The Western participants generally seek to gain commercial information, while the Eastern side looks more for technical information. Since competing Western firms generally are represented in the working groups, discussions of projects tend to be general lest privileged information be passed to the competition. The working level members of Eastern delegations at times do not have authority to discuss certain types of information, while Western businessmen may be able to speak only for their own firms and not industry in general. Nevertheless, there is a feeling that, as a result of relationships built up over the years, some information base is being developed about capabilities, requirements, and business practices, and greater understanding is being generated about the respective systems.

While the ultimate objective of the agreements and commissions is the conclusion of concrete sales and cooperation contracts between the respective countries, the working groups and indeed the commissions can only facilitate and not accomplish this. It is in this area that the major operational difference between Western and Eastern

<sup>8</sup> This section draws on research done in 1974 by Christine Lucyk of the Bureau of East-West Trade of the U.S. Department of Commerce.

participants in joint commissions is most evident. The Western delegates (both government and private sector members) as representatives of a market economy can act at a general framework level. They can receive and agree to disseminate information from their Eastern counterparts as to individual sectors or projects in which the latter are interested. They can provide similar information about the interests of their own industries if they have the possibility to poll the industry or have strong industrial associations. They can discuss and propose solutions concerning problems of cooperation in particular industries. The Western members may be able to agree to arranging trade missions or seminars. They may even be able to draw up programs for industrial cooperation. The Western side, however, cannot commit the private sector to participation in projects. Following these working group discussions and contacts, contract negotiation is still up to the discretion of individual firms.

Eastern delegations, however, represent unified systems which can present proposals and determine whether or not they wish to participate in a specific contract. When similar working groups or commissions take place between Comecon countries, the outcome frequently is a concrete agreement concerning specific projects. The working groups between East and West cannot do so. This difference in authority between Western and Eastern delegations, stemming from differences in economic systems, inevitably leads to the Western delegation being placed in a more passive role vis-a-vis its Eastern counterpart. The rare exceptions in which the Western side approaches the decision-making competence of the Eastern counterpart are in projects falling under the nationalized industries or semi-state enterprises of the Western country.

Thus the asymmetry of the respective systems places limits on what the working groups can accomplish. In their response to an inquiry of the Economic Commission for Europe, member governments stated that working groups have proved helpful in organizing seminars, visits, symposia and consultations between experts and have facilitated the establishment of direct links between enterprises and other organizations or bodies in partner countries.<sup>9</sup> Despite the above indicated shortcomings, some see the sectoral working groups as the most substantive and operational element present in the mixed commissions.

### III. THE U.S. EXPERIENCE

The three Joint Commercial Commissions which the U.S. has established to date with the countries of Eastern Europe were the products of the summit meetings of the early 1970's which initiated a new phase of relations with each country. The Joint U.S.-U.S.S.R. Commercial Commission and the Joint American-Polish Trade Commission were established during President Nixon's visit to Moscow and Warsaw in May-June 1972. The creation of the American Romanian Economic Commission was agreed upon during the December, 1973, visit of President Ceausescu to Washington.

Commercial and economic ties were but one aspect of the broad range of bilateral relations discussed at these summit meetings. They,

<sup>9</sup> United Nations, Economic Commission for Europe, *The Work of the Intergovernmental Joint Commissions in the Field of East-West Industrial Co-operation* (Secretariat Note), TRADE/AC.3/R.3, 27 August 1976, p. 4.

nevertheless, were deemed "an important and necessary element in the strengthening of bilateral relations."<sup>10</sup> The utility of creating an institutionalized framework for treating economic relations was suggested not only by the interest in expanding trade ties, but also by the need to resolve various framework issues and overcome the complex problems inherent in trading between centrally planned and free market economies if normalization and expansion of trade ties was to take place.

### *Organization*

All three commissions share certain broad common purposes: to coordinate efforts to broaden and facilitate trade relations and to monitor the spectrum of bilateral commercial relations, identifying and, when possible, resolving issues that may be of interest to both parties. The terms of reference, which set out the tasks for each commission, reflect the particular state of relations existing between the U.S. and the particular Eastern European country at the time of the Commission's creation. Those for the Joint American-Polish Trade Commission are the most general, reflecting the fact that trade between the U.S. and Poland had been conducted on an MFN basis since 1960 and was already increasing modestly. The terms of reference of the Joint U.S.-U.S.S.R. Commercial Commission set out quite specifically the basic problems the Commission was to address. They call for the Commission to negotiate an overall trade agreement including reciprocal MFN treatment; arrangements for the reciprocal availability of government credits; provisions for the reciprocal establishment of business facilities; and an agreement establishing an arbitration mechanism for settling commercial disputes.<sup>11</sup> The terms for the American-Romanian Economic Commission, in addition to facilitative measures, task the Commission to "provide a forum for exchanging information and consultation on areas for cooperation,"<sup>12</sup> a function which has gained in importance in all three commissions.

All three of the joint commissions are similarly organized. Each commission meets annually, or as otherwise agreed upon, alternately in Washington and the foreign partner's capital. The commissions' work is conducted both in plenary sessions and in working groups to consider specific matters. Working group or experts' meetings may be held between commission sessions if the need arises. Unlike many of the West-East European commissions, the U.S.-East European joint commissions are not "mixed commissions," that is they do not include industry representatives. They are strictly government-to-government bodies. The commissions' exchanges are conducted at the highest government levels. Chairmanship of the commissions for the U.S. side is performed by either the Secretary of Commerce or the Secretary of Treasury, and by either a Vice Premier or the Minister of Foreign Trade for the Eastern European commission partner. Working groups are chaired at the sub-cabinet level. The delegation of each side, in addition to the Departments of Commerce and Treasury, includes representatives of the various government agencies with an interest

<sup>10</sup> "Basic Principles of Relations between the United States of America and the Union of Soviet Socialist Republics," May 16, 1972, seventh principle, in *U.S.-Soviet Commercial Agreements 1972* (Washington: U.S. Department of Commerce, January 1973), p. iii.

<sup>11</sup> *Ibid.*, p. 3.

<sup>12</sup> *American-Romanian Economic Accords 1973-1974* (Washington: U.S. Department of Commerce, March 1975), pp. 9-11.

in the subjects discussed, such as the Departments of State and Agriculture, the Export-Import Bank, the Special Trade Representative, and the Council on International Economic Policy. The high level at which the discussions are conducted reflects the political implications which are attached to these commercial relations and the fundamental government policy decisions which have been required for some of the Commissions' actions. The interagency character of the representations, on the other hand, facilitates discussion and resolution of issues cutting across agency lines or linkage of issues falling under different agency jurisdictions.

In 1977, the Joint American-Polish Trade Commission will hold its Seventh Session, the Joint U.S.-U.S.S.R. Commission its Sixth Session, and the American-Romanian Economic Commission its Fourth Session. The matters which they have considered will be reviewed under several headings—trade agreements, trade targets, commercial policy, business facilities, exchange of information, and industrial cooperation.

#### *Agreements*

Unlike the West-East European joint commissions, the joint commissions in which the United States participates were not created under the terms of trade or long-term cooperation agreements. In the case of the U.S.S.R. and Romania, the joint commissions with them were the instrumentalities through which first trade agreements and later long-term cooperation agreements were negotiated. In the case of Poland, although no agreement of either kind has been concluded, the Joint Statement on Economic, Industrial, and Technological Cooperation issued by President Ford and First Secretary Gierek in Washington in October 1974, was prepared within the commission framework. Both the U.S.-U.S.S.R. Trade Agreement of 1972 (Art. 9, par. 2) and the U.S.-Romanian Agreement on Trade Relations of 1975 (Art. 11) designate their respective joint commissions to oversee and facilitate the implementation of the trade agreements. Similarly the long-term agreements with the U.S.S.R. (Art. V) and Romania (Art. V) on economic, industrial, and technical cooperation specify that the joint commissions are to monitor the implementation of the agreements.

In addition to serving as mechanisms for the negotiation of the trade and cooperation agreements, the joint commissions have served as fora in which the negotiation of specific agreements such as those in taxation or air worthiness has been proposed and agreed upon. Although negotiation of these specific agreements has been conducted outside the commission framework, the commissions have monitored their progress and, on occasion, provided impetus for the resolution of differences and conclusion of the agreements. While the trade agreements and some of the specific commercial agreements could equally well have been negotiated through normal diplomatic channels, the long-term cooperation agreements require a forum for problem identification and continuing implementation and thus are intimately linked to the existence of joint commissions.

#### *Trade Targets and Trade Promotion*

The review of past trade performance and setting of future trade targets has become an integral part of commission proceedings. Thus

the First Session of the American-Romanian Economic Commission in April 1974, agreed that a trade level of \$1 billion would be a realistic and desirable goal for 1980.<sup>13</sup> This goal was reaffirmed at the Second Session in November 1975. In addition, more specific targets were set for each of the next five years (1976—\$400 million; 1977—\$500 million; 1978—\$670 million; 1979—\$800 million; 1980—over \$1 billion). The Trade Agreement which was concluded earlier that year envisaged a tripling of bilateral trade during the initial three-year period of the Agreement, as compared with the 1972–1974 period. These goals were reaffirmed at the Third Session in November 1976.

The Joint American-Polish Trade Commission discussed trade prospects at some length at its Second Session in November 1972, reviewing both the products and conditions which could contribute to trade expansion. Thus it was projected that U.S.-Polish trade could at least triple over the coming five years from the 1971 level of \$180 million. It was also expected that U.S. exports to Poland of manufactured products could increase over several years from the level of \$2–3 million annually to \$150 million annually.<sup>14</sup> At its Fourth Session in September 1974, the American-Polish Commission anticipated that bilateral annual trade might reach \$1 billion in 1976 and grow to \$2 billion by 1980. These goals were incorporated into the Joint Statement on Cooperation and continue to be operative.<sup>15</sup>

Potential levels of trade were similarly discussed with the Soviet Union. The U.S.-U.S.S.R. Trade Agreement of October 1972, contemplated that total trade during the three-year period of the agreement would at least triple over the 1969–1971 level to an aggregate amount of \$1.5 billion.<sup>16</sup> The Joint Communique issued in June 1973, during General Secretary Brezhnev's visit to the United States stated that the two countries should aim at a total of \$2–3 billion of trade over the next three years. In all three cases, the established trade goals have in general been met or surpassed.

The setting of trade goals, even though these are not binding on either side, serves more than a public relations function in East-West trade relations. It is a recognition of the centrally planned nature of the Eastern economies, and the inefficiency of commercial incentives alone (MFN, prices and quality of goods, etc.) in allocating the level and direction of trade in the face of planning directives. The targets for trade increases are a mechanism for bridging to some extent the differences between different economic systems. The targets are also a trade promotion technique of sorts to interest traders by indicating the potential of the market. At the same time, presupposed as they are on the adoption of certain commercial policies, the trade targets serve as both an incentive to and a measure of policy implementation.

### *Business Facilities*

The efficient conduct of international business requires the availability of various physical and administrative facilities. As recognized by the Final Act, such business facilities can contribute positively to

<sup>13</sup> *Ibid.*, p. 17.

<sup>14</sup> *American-Polish Trade Accords 1972–1973* (Washington: U.S. Department of Commerce, February 1974), pp. 5–6.

<sup>15</sup> "Joint Statement by President Ford, Polish Leader," *Commerce America*, October 24, 1974.

<sup>16</sup> *U.S.-Soviet Commercial Agreements 1972*, *op. cit.* pp. 75 and 89.

the development of commercial relations. Measures aimed at improving the working conditions for foreign businessmen and firms in the respective countries have received prominent consideration in the work of the three U.S. joint commissions with Eastern Europe.

At the time the joint commissions were established, very limited opportunities existed for American companies to operate on a permanent basis in the Eastern European countries. Business had to be conducted either through the communist country's state commercial agents or frequent visits by company representatives to the country. The few exceptions in which U.S. companies had their own offices were limited to trade, tourism, or purely technical operations. Prior to the commissions' negotiations, only two U.S. companies in Moscow and one in Warsaw—all in tourism or travel—had been accredited to operate their own offices. Only in Romania, following the 1971 decree on foreign representations,<sup>17</sup> had firms been able to establish their offices prior to specific bilateral arrangements.

While no system of accreditation similar to that obtaining in Eastern Europe existed in the United States to bar the establishment of Eastern European commercial representations in the United States, visa restrictions and a lack of official encouragement acted as an effective deterrent.

Initial discussions of business facilities thus focused on creating the right for foreign firms to establish commercial offices and defining the basic conditions for their operation. A broad gamut of issues was covered: criteria and procedures for accreditation, office space, communications and office equipment, employees, housing, visas, customs, taxes, and exchange rates. Understandings on these matters were reached at the very earliest meetings of the respective joint commissions and were set forth in the documents emanating from the commissions.

Both the First (July 20-August 1, 1972) and Second (October 12-18, 1972) Sessions of the Joint U.S.-U.S.S.R. Commercial Commission devoted considerable attention to the question of business facilities and the establishment of commercial representations for firms of the two countries. The agreed upon facilities were embodied in Art. 6 of the U.S.-U.S.S.R. Trade Agreement signed at the conclusion of the Second Session on October 18, 1972 and in the exchange of letters and attachments on business facilities between Minister of Foreign Trade Patolichev and Secretary of Commerce Peterson on that same date.<sup>18</sup>

These were reaffirmed in Art. 4 of the Long-Term Agreement to Facilitate Economic, Industrial, and Technical Cooperation Between the USA and the USSR of June 29, 1974. Since then, the number of U.S. firms with offices has grown to twenty-six.

The Joint American-Polish Trade Commission took up the question of business facilities in general at its Second Session (Nov. 4-8, 1972), at which time Poland agreed to accredit foreign firms for the conduct of commercial in addition to technical activities. As directed by the Second Session, a Working Group on Business Facilities met March

<sup>17</sup> "Decree on Authorization and Working Regulations of Commercial Agencies Set Up by Foreign Trading Firms and Economic Organizations in the Socialist Republic of Romania," Decree No. 15 of January 25, 1971, *Official Bulletin of the Socialist Republic of Romania*, No. 10, January 27, 1971.

<sup>18</sup> *U.S.-Soviet Commercial Agreements 1972*, op. cit., pp. 90, 96-101.

1-7, 1973, to work out in detail the conditions for representation offices, and its "Summary Report" set forth the new conditions.<sup>19</sup> Twenty U.S. companies subsequently have opened offices in Poland.

In the Romanian case, where commercial representation already existed; specific understandings concerning commercial representations were written into the U.S.-Romanian Agreement on Trade Relations of April 2, 1975 (Annex 2) and were reaffirmed in the Long-Term Agreement on Economic, Industrial and Technical Cooperation.<sup>20</sup> Eleven U.S. firms currently are represented in Romania.

Although the basic conditions for commercial representation were agreed upon early in the history of the joint commissions, business facilities issues have continued to receive consideration in their deliberations. In some instances, delays were encountered in the availability of certain facilities initially provided for. In other instances, experience indicated that originally conceived formulations required revision or expansion. As the number of companies establishing offices increased and the scope of their activities broadened, new situations arose which required regulation. Thus the joint commissions have considered such additional questions as office accreditation for banks, multiple-entry visas and visa fees, exit permits for local employees of the offices, the generation and use of local currency, discriminatory exchange rates, and costs of operation.

Although considerable progress has already been achieved, further development in the realm of business facilities will be called for as commercial contacts expand. An easing of the various restrictions which apply to company offices—such as those concerning accreditation, number of foreign employees, procurement of local services, or access to end-users—may well prove necessary as the number of offices increases. Measures which would facilitate the representation of medium- and small-sized firms would contribute to a broadening of the type of firms participating in this trade. Development of service facilities for visiting businessmen lacking their own offices—for instance secretarial and interpreter pools or photo copying services—would contribute to improved working conditions.

Individual firms may be able to obtain some needed facilities directly for themselves through negotiations with foreign authorities. Many of the more important facilities, however, affect a number of firms and also require a revised or new policy by the host country. In many instances these can be more efficiently negotiated on a government-to-government basis. Not all facilities, of course, are equally amenable to negotiation, especially those which involve basic systemic principles for one of the parties. Even in these cases, discussion within the commission context can contribute to better understanding of the problems or encourage long-term policy modification.

The joint commission context offers certain advantages for treating an issue area such as business facilities. The asymmetry of market and state-controlled economic systems raises different problems for the firms of each country, with different facilities assuming different importance and priority for each side. Since direct *quid-pro-quo*s may be lacking, compromise and solutions are more likely to be achieved by treating the issue area as a whole rather than as isolated problems.

<sup>19</sup> *American-Polish Trade Accords 1972-1975, op. cit.*, pp. 29-30.

<sup>20</sup> *East-West Foreign Trade Board Report, Third Quarter 1975, Appendix D; article by Jay A. Burgess, "An Analysis of the U.S.-Romanian Long-Term Agreement on Economic, Industrial and Technical Cooperation,"* in this volume.

In addition, business facilities fall under the jurisdiction of various agencies and the Commission context encourages interagency coordination.

While discussion of business facilities within the context of the joint commissions has concerned conditions for the national firms of the respective countries, a certain spillover effect improving the general state of business facilities has been noticeable. Facilities granted to one country have often been made available to other countries, either because of the required changes in national regulations or the desire not to appear discriminatory. Similarly, practices instituted by one country have sometimes been adopted by other countries in order to remain competitive.

### *Exchange of Information*

Availability of information is a prerequisite for the development of international trade and economic cooperation. As some of the basic framework setting issues have been resolved, the three joint commissions between the United States and the countries of Eastern Europe have increasingly turned their attention to questions of information. Several different kinds of information have been the subject of their exchanges: national economic data and market analysis; foreign trade statistics and regulations; commercial information and regulations; and business practices. All of these areas have been covered in varying degrees in each of the three joint commissions.

An obvious area of commission interest has been the laws and regulations concerning foreign trade. Changes in tariff laws are of interest both to governments granting MFN and to exporters evaluating foreign purchasing decisions. New tariff laws were introduced by Romania in 1974 and Poland in 1976. In both instances, explanations were provided at the next regularly scheduled commission sessions. Regulations governing foreign investment have received extensive consideration by the commissions. The American-Romanian Commission, for instance, explored in depth issues relating to the regulations governing joint ventures in Romania. Following the enactment of Poland's foreign investment regulations, the Polish delegation provided the American-Polish Trade Commission with a detailed written explanation of the various decrees and regulations governing foreign investment in Poland. The U.S. Section in turn has provided its commission partners with information concerning regulations and procedures for foreign investment in the United States. As indicated in the section on business facilitation, the regulations governing firm representation also have been explored extensively by the joint commissions. The operation of U.S. antidumping and countervailing duty laws and other regulations governing imports have been of considerable interest to our Eastern European partners, and the commission meetings have provided an opportunity to provide them with information about these laws. Questions concerning unpublished Eastern Europe directives on foreign trade, such as those concerning buy-back arrangements, also have been raised in the joint commissions.

Domestic regulations and standards also frequently impinge on foreign trade, especially as they relate to products entering the country. Thus the commissions have taken up such questions as product standards and food and drug regulations, patent registration procedures, bank legal lending limits, and similar problems. The working

group of experts which met prior to the Second Session of the U.S.-Romanian Economic Commission exchanged extensive information on such matters. Matters of interest to companies engaging in major projects, such as the hiring of local labor, qualifications for skilled personnel, and access to local social service benefits for foreign personnel, have also been explored in the joint commission working groups.

The most comprehensive exchange of information of this kind was the "Joint Seminar on the Organizational and Legal Aspects of U.S.-U.S.S.R. Trade," held in Moscow on December 17-19, 1975.<sup>21</sup> The seminar arose out of a proposal made by the U.S. side at the first meeting of the Working Group of Experts established in accordance with Article III of the U.S.-U.S.S.R. Long-Term Agreement to facilitate Economic, Industrial, and Technical Cooperation and agreed upon at the fifth session of the Joint Commission.

The Soviet delegation presented information on such aspects of the Soviet foreign trade system as organizations involved in industrial cooperation projects, regulation of exports and imports, legal status of foreign trade organizations, credit and finance, liability of the seller for the quality of goods to be delivered, the FTO Soyuzvneshstroy-import, and questions in contracts. The American delegation for its part made presentations on such aspects of the U.S. system as the structure of U.S. commercial law, the prevention of injurious or unfair imports, Food and Drug regulations, import quotas, textile restraints, federal laws regulating foreign trade and economic activity, product liability, export licensing, legal provisions concerning the financing of trade, and contract clauses. Presentations were followed by questions and answers. Publication and dissemination of the information exchanged at this seminar, which greatly enhanced its utility, was made possible by the availability of texts and clarification of textual and translation questions. It is highly unlikely that useful exchanges such as this could be arranged without the existence of an institutional setting in which they can be advocated, prepared, and followed-up.

The three joint commissions also have tried to develop mechanisms for the continuing and regular exchange of information and forecasts of basic economic, industrial, and commercial trends. It has, for instance, become an accepted practice of the commissions for the centrally-planned-economy partners to present information on their annual and five-year plans. A more ambitious initiative in this direction has been the establishment of Working Groups of Experts. Such expert groups have met within the framework of the U.S.-U.S.S.R. and U.S.-Romanian bilateral arrangements. The first U.S.-U.S.S.R. Working Group of Experts met in Moscow on February 12-14, 1975. At that meeting, both sides made presentations on the performance and prospects of their respective economies, industries, agriculture and foreign trade, and on the data sources used to measure and analyze these trends and forecasts. It was agreed that similar information would be presented at future meetings. If indeed the experts group meetings and the envisioned exchanges become regularized, considerable progress could be made toward the narrowing of the information gap which stymies East-West commerce.

<sup>21</sup> *American-Soviet Trade; A Joint Seminar on the Organizational and Legal Aspects* (Washington: U.S. Department of Commerce, September 1976).

The initial attempts of the joint commissions to foster cooperation in market analysis have had marginal results. Possibilities for the expansion of market research were explored at a meeting of U.S.-U.S.S.R. Market Research Teams in Moscow on February 17 to 19, 1975. Although a great deal of information was exchanged during the meetings, no concrete steps for the development of this area were agreed upon. A similar meeting of U.S.-Polish teams in February 1975 indicated considerable interest existed on both sides in market analysis, but there was a lack of vigorous follow-up to translate interest into action.

The information gap can be caused by either a lack of knowledge of what information is available or by the unavailability of the information itself. The commissions have tackled both gaps. On the former, the members have provided one another with information about data sources, including lists of publications in specific sectors. As concerns the unavailability of information, the participants have been able to advise their partners as to the kinds of information which would be commercially useful or even essential. Thus the United States has provided its counterparts with lists of the kinds of information which are necessary for commercial purposes and urged that it be made available.

As the exchange of economic and commercial information receives increasing joint commission attention, it is worth reflecting about the factors which encourage the free flow of information. The generally positive results of the exchange of information under the Working Group on Agricultural Cooperation of the Joint American-Polish Trade Commission would suggest that the more concrete are the interests of the parties in a given area and the more immediate are the benefits to be gained from providing the information, the more likely are the parties to be forthcoming with the desired information. Thus the record of the joint commissions in increasing the availability of information will be related to their accomplishments in other areas of joint commission work, especially as concerns economic cooperation.

### *Industrial Cooperation*

In addition to their other responsibilities, the joint commercial commissions are charged with monitoring the implementation of the Joint Statements (U.S.-Poland and U.S.-Romania) and Long-Term Agreements (U.S.-U.S.S.R. and U.S.-Romania) on Economic, Industrial, and Technical Cooperation. The cooperation envisaged by these statements and agreements is primarily commercial, industrial, and long-term.

Such cooperation is commercial in that, according to clauses of each of these documents "cooperation transactions will be effected on the basis of contractual arrangements between firms, companies and economic organizations of the two countries." As indicated by the titles of these documents, the envisaged cooperation is to be in industrial sectors. The joint commissions do consider questions of agricultural cooperation, but that takes place under the agreements (U.S.-U.S.S.R.) or joint statements (U.S.-Poland and U.S.-Romania) on agricultural cooperation and within specialized agricultural working groups. Although major transactions of a non-cooperative nature

may receive attention, the focus of the basic documents and commission deliberations is on transactions continuing over an extended period (5, 10 or 20 years), hence long-term, with cooperation between the partners.

The concept of industrial cooperation and the instruments of government-to-government and firm-to-firm industrial cooperation agreements have developed in the context of East-West trade as mechanisms of bridging some of the asymmetries in the structure and level of development of the market and centrally planned economies. The reasons for the development of industrial cooperation and the motivations of both East and West have been extensively analyzed and do not need repeating.<sup>22</sup> Our interest here is in the nature of joint commercial commission consideration of industrial cooperation.

The nature of discussions concerning industrial cooperation in the U.S. joint commissions with Eastern Europe is shaped by two factors: the private nature of any transactions which would implement the envisioned cooperation and the purely governmental composition of the joint commissions. Both result from the nature of the U.S. economic-legal system and the relationship between U.S. Government and industry.

Industrial sector working groups with private sector participation (mixed groups) have never been established under the U.S.-East European commissions. Both legal and practical considerations have dictated such a course. On the legal side, the prescriptions of U.S. laws concerning federal advisory committees, avoidance by government employees of preferential treatment to any organization or person, anti-trust, and conflict-of-interest pose serious problems to the establishment and operation of such groups. On the practical side, especially given the loose organization of U.S. industry as compared to that of most European countries, the creation of such working groups would involve the commitment of resources in excess of the benefits likely to be gained. Beyond these considerations, however, there are intrinsic and deeply-seated reservations about the propriety of the government's involvement in commercial transactions beyond the framework setting and facilitative functions which only it can perform.

In the absence of private sector participation, joint commission consideration is confined to three general areas: possible industrial sectors, subsectors or projects for cooperation; forms that cooperation might take; and government policies affecting cooperation.

The joint commissions serve as clearing houses of information on proposals for industrial cooperation. Discussion of areas for cooperation has assumed a typical pattern of the Eastern European delegation presenting a list of sectors or projects for which it is interested in finding cooperation partners among American firms. The American delegation for its part agrees to disseminate this information to American business. Such dissemination is usually accomplished by publishing the list in *Commerce America* and distributing reprints to

<sup>22</sup> Samuel Pissar, *Coexistence and Commerce* (N. Y.: McGraw-Hill, 1970), pp. 34-39; Robert Starr, "Evolving Patterns of East-West Business Transactions: Introductory Note on Cooperation Agreements," in R. Starr ed., *East-West Business Transactions* (N. Y.: Praeger, 1974), pp. 488-497; R. S. Kretschmar, Jr. and R. Foor, *The Potential for Joint Ventures in Eastern Europe* (N. Y.: Praeger, 1972), pp. 3-18; I. Spigler, *Direct Western Investment in East Europe* (Oxford: Holdan Books, 1975), pp. 69-77; U.N., Economic Commission for Europe, *Analytical Report on Industrial Co-operation Among ECE Countries*, (E/ECE/844/Rev. 1).

the private joint councils, trade publications, and individual businessmen.<sup>23</sup> There is no undertaking by the U.S. commission delegation that American firms actually will pursue cooperation in any of these fields. Seldom, also, does the American side present its own proposals of sectors for cooperation, since no mechanism exists for polling American industry as to its interests. The lists of sectors or projects are phrased in very general terms and the joint commissions have been very marginally successful in devising a mechanism for developing more specific information about the size and scope of the proposed cooperation projects. The lists thus provide only the most general indication of possibilities for cooperation.

More concrete discussions sometimes occur concerning projects already under negotiation between U.S. and Eastern European firms. Of the three commissions, the Joint U.S.-U.S.S.R. Commercial Commission has most frequently addressed itself to such reviews. For instance, the Joint Communiqué issued at the conclusion of the Commission's Fourth Session on May 22, 1974, reported:

The Commission received reports and exchanged views on the current status of a number of longterm cooperation projects under negotiation between U.S. firms and Soviet foreign trade organizations, including projects in the field of fertilizer production, exploration for natural gas and oil, timber products, machine building facilities and products of power-consuming industries. The U.S. Section reported that in accordance with its commitment made at the last session of the Joint Commission, the Department of Commerce had referred the Soviet interest in power-consuming production facilities, including aluminum, ferro-manganese and ferro-chromium, and chemicals, to appropriate industry trade associations and directly to potentially interested U.S. companies. The Soviet delegation provided the U.S. Delegation additional data on several of the projects for transmittal to U.S. firms.

Reviews of specific projects are most likely to occur where these involve multi-million dollar projects and government facilities such as credits, export licenses, or permission to establish offices. Discussions also may involve discreet probing of seriousness of the buyer's intent and signaling of anticipated problems.

Since experience with industrial cooperation has been rather limited and of recent date, the joint commissions, especially the U.S.-Romanian Economic Commission, have devoted considerable attention to the forms of and conditions for industrial cooperation. In the case of Romania where joint equity ventures have been possible for some years, the joint commission has examined in some depth the various questions pertaining to Romanian joint venture regulations and the conditions for their establishment and functioning. Based on the discussion of this subject at the Expert's Meeting of September 1975, the U.S. members prepared a study on this subject for publication which was referred to the Romanian delegation at the Commission's Third Session for their review.<sup>24</sup>

The Joint American-Polish Trade Commission discussed the forms which cooperation might take in the absence of joint venture regulations. The subject of joint ventures was also discussed regularly, with the two delegations exchanging views on the advantages and problems of the joint venture form of cooperation and the conditions necessary

<sup>23</sup> See, for instance, *Commerce America*, October 27, 1975, p. 9 and September 27, 1976, p. 21, for the lists of potential areas for cooperation emanating from the Joint American-Polish Trade Commission.

<sup>24</sup> Jay Burgess and Pompiliu Verzarit, *Joint Venture Agreements in Romania; Background for Implementation*, (Washington: U.S. Department of Commerce, Summer 1977).

for its effectiveness. With the enactment of a foreign investment law by Poland, the commission likely will explore its potential for further industrial cooperation. It would be a gross overstatement to say, as some have suggested, that "it is only due to western insistence, largely American, that joint-equity ventures have become an option for future business relations" in Poland.<sup>25</sup> The decision whether to and under what conditions to permit the equity form of cooperation is basically a domestic policy issue in which the preferences of trading partners can play only a very peripheral role. The discussions within the joint commissions can help further understanding by each side of the other's interests and factors taken into consideration in commercial decision-making. Thus, for example, the Eastern European countries point out the interest of their firms in cooperating with U.S. firms in third countries and the U.S. side expresses the interest of its firms in having the opportunity to enter into joint ventures in the Eastern European countries.

The joint commissions also consider issues related to industrial cooperation which come directly under the purview of the two governments. The most obvious are government-to-government agreements which facilitate cooperation, such as tax treaties, or which are necessary for the conclusion of certain types of cooperation, for instance bilateral airworthiness agreements for cooperation in the aviation industry. The discussions within the joint commissions can facilitate acceptance of the negotiation and conclusion of such agreements. Some matters concerning industrial cooperation, however, are not amenable to resolution or facilitation. The Eastern European countries, for instances, have reached agreements with some of their other Western commission partners concerning special customs treatment, exclusion from import quotas, protection from antidumping charges or credit facilities for products involved in industrial cooperation.<sup>26</sup> Such special considerations are deemed by the Eastern European countries to facilitate planning and eliminate some uncertainty concerning industrial cooperation projects. Under U.S. laws, such special considerations are not possible. However, information has been supplied by the U.S. side which could assist the Eastern European side in decision-making concerning industrial cooperation. In the area of U.S. export licensing, for example, although special treatment cannot be accorded to products or data destined for industrial cooperation projects, the list of areas for industrial cooperation which is received from them has been analyzed by U.S. Export Administration authorities and general information provided concerning export licensing problems which are likely to be encountered in any particular area.

As is evident from the foregoing discussion, joint commission consideration of industrial cooperation consists of the exchange of fairly general information. The experience of other countries would seem to indicate that the existence of mixed working groups does not produce fundamentally different results. Nevertheless, it seems that some

<sup>25</sup> Harold Horstmeyer, "Caution Urged in Construing Investment Guidelines," *Journal of Commerce*, March 7, 1977, p. 20A.

<sup>26</sup> For example, under the February 23, 1970 agreement between France and Czechoslovakia, and the February 12, 1971 agreement between the Federal Republic of Germany and Bulgaria, items traded under cooperation agreements enjoy a special status *vis-a-vis* import restrictions in the importing country. The January 23, 1970 agreement between France and Bulgaria contemplates advantageous conditions of credit for industrial cooperation projects. R. Starr, *op. cit.*, p. 489.

forum intermediate between the government-to-government commissions and the firm-to-firm negotiations would be useful, at least at this stage in the development of East-West industrial cooperation. Within the last several years, joint economic councils have been created between U.S. industry and the Eastern European economic organizations of the three countries with which the U.S. has joint commissions. Whether and how these joint councils can provide a bridging link between the respective commissions and industries will need to be explored.

### *Commercial Issues*

As the institution which focuses exclusively on the economic aspects of bilateral relations and convenes regularly, the joint commission is asked to consider and resolve a variety of different commercial issues. Questions concerning credit facilities and export licenses are foremost among these. But there are a host of other problems brought before the commissions—shipping and port access, marine cargo insurance, non-tariff barriers, antidumping and countervailing duty regulations, or privileges under the Generalized System of Preferences for Romania. In addition, very specific complaints of individual firms of either country which have not been resolved through normal channels may be brought to a commission's attention. In addition to whatever facilitation the commissions may provide for the resolution of such issues, they also provide a forum for assessing the total picture of bilateral commercial relations and viewing any specific problem in the context of the overall relationship. This in itself may contribute to a climate conducive to the negotiation of differences and progress in adopting facilitative arrangements.

## IV. A NETWORK OF RELATIONSHIPS

It is clear that the joint commercial commissions by no means limit themselves to the tasks of dismantling barriers to trade. They also seek to stimulate trade and cooperation between the parties. There is an understandable reluctance of the participating sides to publish candid evaluations of the joint commissions to which they are party. Indeed, most of them note the difficulty of measuring the results of the deliberations of the commissions in terms of increased trade volumes or concrete cooperation agreements concluded.<sup>27</sup>

The experience of the U.S. and other Western countries participating in joint commissions with Eastern Europe suggests that the joint commissions perform several functions effectively, including the development of business contacts, identification of potential cooperation projects, and expansion of commercial information. The foremost of the commissions' contribution to the development of East-West commercial relations is the resolution of commercial policy issues lying within the competence of the two governments. For this reason, it is sometimes suggested that the joint commercial commissions concentrate in the main on activities realizable through the agencies of the two governments concerned.

Commissions are action-forcing and decision-facilitating events. They create a certain urgency for each side to address itself to outstanding issues and undertake decisions. The commission sessions

<sup>27</sup> ECE, *Joint Commissions*, *op. cit.*, pp. 4 and 5.

also provide an incentive for the development of new initiatives. The direct engagement of senior policy-making officials in commission sessions facilitates the decision-making process. In addition, the regularized contacts created by the commissions permit consultation on economic issues before they reach crisis proportions. The commission mechanism likewise provides a readily available channel for dialogue when urgent problems arise. The conduct of commercial relations on an institutionalized rather than *ad hoc* basis encourages the development of a network of individual and institutional relationships and a pattern of cooperation which can provide a measure of the stability and continuity, as well as innovation, of policy necessary for the development of commercial relations.

### *Political Dimension*

Beyond whatever economic purposes the joint commercial commissions serve, there is also the political dimension which should not be ignored, for the joint commissions are institutions between not only different economic systems but also different political systems and alliances. The political nexus was paramount in the creation of the Franco-Soviet "Grande Commission" in 1966—an element in DeGaulle's vision of a "Europe to the Urals." Even greater political importance was attached to commercial relations and the joint commission in the development of the U.S. policy of "détente" with the Soviet Union. "We have approached the question of economic relations with deliberation and circumspection and as an act of policy not primarily commercial opportunity," Secretary of State Kissinger told the Senate Foreign Relations Committee.<sup>28</sup> The political dimension may assume greater or lesser importance, but it is present in all the joint commission relationships.

Political considerations cannot help but have an impact on the life of the joint commissions, both facilitating and stymying their work. Since joint commissions normally are created at a time when bilateral political relations are improving and rapid progress on a variety of issues appears possible, their initial sessions record an impressive list of accomplishments. Once the initial spate of issues is resolved, however, the commissions may find it difficult to meet, on a continuing basis, the high expectations generated, especially if the political impetus diminishes.

The effect of politics may surface in many ways. It may be reflected in the selection of issues to be raised and the tone in which they are presented and the sessions conducted. Political considerations may reinforce or contervene the inherent tendency created by the regularity of commission meetings to try to be responsive to the proposals of the other side. Politics may determine the level at which the sessions are held, whether meetings are held as scheduled, and the various arrangements made for social or business contacts in conjunction with a commission meeting. Should a commission be so successful as to outlive its commercial usefulness, political considerations may make its dismantling a delicate diplomatic matter.

<sup>28</sup> Dept. of State Press Release, Sept. 19, 1974. For a discussion of U.S. Government thinking on the relationship of economics and politics in U.S.-Soviet relations, see: Peter G. Petarson, *U.S.-Soviet Commercial Relations In a New Era* (Washington: U.S. Dept. of Commerce, August 1972).

While the joint commissions have generally benefitted from the desire of the participants to improve bilateral relations, they also have fallen victim to deteriorating political relations. The sensitivity of joint commissions to political events is illustrated by the British and U.S. Commissions with the U.S.S.R. Following the British expulsion of over 100 Soviet citizens in 1971, the joint commission, at Soviet request, did not meet and the activity of the working groups virtually came to a halt.<sup>29</sup> Similarly in 1976, when U.S.-Soviet relations deteriorated over Angola, the Joint U.S.-U.S.S.R. Commercial Commission did not hold its annual meeting, and meetings of other joint bodies were postponed.

Although they are primarily instruments of commercial policy, the joint commissions can contribute to the maintenance of a stable political relationship insulated from temporary stresses. Their regularly scheduled meetings enable high level officials of both sides to meet periodically to review general trade and economic relations and keep them on the desired course. At such meetings the commercial relations can more readily be placed in the context of overall relations. At the same time other matters of considerable importance can be addressed in an atmosphere conducive to negotiation. In relationships where political differences diminish in sharpness, as they have with some of the Eastern European countries, commerce has come to assume the essence of bilateral politics.

### *Surfeit of Superstructure?*

It is appropriate to ask how necessary joint (and mixed) commissions are to the development of East-West trade. The question of whether East-West trade and cooperation could expand without the myriad of agreements and joint commissions is by now academic for, even if these institutions were to be abolished tomorrow, they have existed and contributed in a greater or lesser degree to the developmental process during the crucial take-off stage.

The issue today is a different one. Have these commissions proliferated to the point where they no longer effectively perform the functions for which they were created? To accomplish the ambitious goals set out for them by the long-term cooperation agreements and their own terms of reference, the sessions of the joint commissions and the meetings of their working groups require solid preparation and purposeful follow-up. The joint commissions entail heavy demands on the time of senior officials, but they also place a time-consuming burden on the working level. In most instances, there is a very small staff in the foreign trade ministry or similar agency which is responsible for conducting joint commission or economic cooperation affairs. One gains the impression that often preparations for joint commission sessions or working group meetings are inadequate and follow-up actions almost non-existent.<sup>30</sup> The multi-agency character of government participation may require the allocation of significant time and resources to coordinating the activities of all the agencies involved. These demands are further increased where private sector participation is involved. But one cannot help wondering whether the sheer force of numbers of commissions, especially but not only for the Eastern Euro-

<sup>29</sup> I. A. Litvak and C. H. McMillan, *op. cit.*, p. 165.

<sup>30</sup> ECE, *Joint Commissions, op. cit.*

pean partners, poses basic obstacles to the optimal use of the joint commission institution. One bureau of an Eastern European government purportedly has responsibility for eighty cooperative bodies.

As the respective governments and joint commissions reassess the course of East-West commercial relations, consideration of alternatives to the joint commissions as currently structured may be warranted. One option is to consider how much and which of the joint commission functions could be taken over by private sector organizations. As was pointed out repeatedly by the Western members of the Economic Commission for Europe, the task of the public sector in economic cooperation matters is to supply the framework and create the possibilities for enterprises to conclude contracts. It is the industrial sector, however, that holds the key to such contracts. As contacts and relations between firms become regularized, the government parties to the joint commissions may wish to consider relinquishing some of the joint commission responsibilities to private sector organizations.

In some instances, private organizations carried the full burden of cooperation with Eastern European countries before the government got involved in cooperation agreements and joint commercial commissions, as, for instance, did the C.B.I. in Great Britain and the industrial associations in West Germany. Since then, in addition, new unilateral and binational private East-West trade promotion groups have sprung up in many countries. Individual firms also have succeeded in establishing fruitful contacts. A portion, if not all, of the responsibilities of the joint commissions might fruitfully be turned over to such groups, thus focusing the efforts of governments on the framework matters which only they as governments can handle. Such a solution would ameliorate some of the problems raised by the governments themselves, private industry, and academic critics<sup>31</sup> concerning the government-firm relations in a market economy.

Alternately or in conjunction with such a devolution of powers, the participating governments may want to consider restructuring the joint commissions. Such a transformation might involve reducing the level at which the commissions are chaired by a notch or two, or reducing the frequency of commission sessions held at the highest level to biennial events with perhaps working group meetings held in alternate years. The joint commissions may also wish to consider setting "sunset laws" on their activities—defining the conditions under which their goals will have been met sufficiently to warrant disestablishment of their joint commission. At some point the cooperation which they have fostered, facilitated, and promoted must be capable of taking independent root, or else, like the seed fallen on barren ground, it will prove fruitless.

#### *The Helsinki Accords*

In the meantime and for some time to come, the joint commissions remain a functioning institution linking the market and centrally planned economies of East and West. In agreeing to the Final Act of the Conference on Security and Cooperation in Europe, the participatory states acknowledged that commercial cooperation is an important aspect in their mutual relations, and is an element which

<sup>31</sup> Edward A. Hewett, "Government, the Market, and East-West Trade," in C. H. McMillan, *op. cit.*, pp. 173-185.

contributes significantly to their security and well-being. In reading through the text of Basket Two on economic relations, one is struck by the parallel between the guidelines and recommendations of the Act and the objectives of the joint commercial commission as set out in the bilateral cooperation agreements.<sup>32</sup>

The progress which has been achieved in recent years, both before and after the signing of the Helsinki Accords, in the exchange of economic information, provision of business facilities, and stimulation of industrial cooperation has come about primarily through the efforts of the joint commissions. There is no doubt that the commissions can play a significant part in furthering the implementation of the Helsinki Final Act. The joint commissions provide each of the signatories a mechanism through which they can strive bilaterally towards accomplishing its goals. Although the bilateral character of the joint commissions may involve much duplication of effort and prove less efficient than multilateral efforts, the work of each commission should reinforce the efforts of the others and thus hasten fulfillment of both the Final Act's and the commissions' objectives. Concerted effort to implement the guidelines and recommendations of the Final Act, in turn, cannot help but infuse added vitality and effectiveness to the life of the joint commercial commissions.

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<sup>32</sup> U.S. Dept. of State, *Conference on Security and Co-Operation in Europe; Final Act* (Washington: U.S. Dept. of State), Publication 8826, August 1975. The provisions of Basket Two are covered in *The Helsinki Final Act; A Guide For the U.S. Business Community* (Washington: U.S. Dept. of Commerce, April 1977)

# EAST-WEST EUROPEAN TRADE RELATIONS

By THOMAS A. WOLF\*

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### I. INTRODUCTION

Roughly 40 percent of East-West trade consists of trade between six East European countries (hereafter, the CMEA(6): Bulgaria, Czechoslovakia, the German Democratic Republic (GDR), Hungary, Poland and Romania) and twelve West European industrial competitors of the United States (hereafter, the WE(12): Austria, Belgium, Denmark, France, the Federal Republic of Germany (FRG), Italy, Luxembourg, the Netherlands, Norway, Sweden, Switzerland and the United Kingdom).<sup>1</sup> This intra-European East-West trade, which accounts for approximately 80 percent of total CMEA(6) trade with OECD countries, on the whole less spectacular, and consequently not as well publicized in the United States, as the occasional mammoth transactions involving West European, Japanese or American companies and the Soviet Union (eg., the Kama truck plant, the grain deals). Intra European East-West trade is also generally less politicized than are U.S. economic relations with the U.S.S.R. and the People's Republic of China. (Such trade is not entirely without controversy, however, as evidenced by the debate in the FRG prior to the 1976 agreement with Poland which in effect provided the latter with subsidized credits in return for assurances regarding the ability of ethnic Germans to emigrate to the West.)

This paper briefly surveys the major developments in East-West European trade relations over the past decade, including the evolution of East-West trade policies and the changing commodity composition, growth and geographical distribution of this trade. Omitted, because discussed elsewhere in this volume, are such topics as East-West industrial cooperation, tourism in Eastern Europe, the Common Commercial Policy of the European Community (EC), EC-CMEA relations, institutional aspects of West European export and import policies, and balance of payments and hard currency indebtedness developments in Eastern Europe.

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<sup>1</sup> The proportion accounted for by intra-European East-West trade would be even larger were we to include the trade of Finland, Greece, Ireland, Portugal, Spain, Turkey and Yugoslavia with the CMEA(6).

## II. GENERAL DETERMINANTS OF EAST-WEST EUROPEAN TRADE, 1965-75

Intra-European East-West trade over the past decade has been shaped by a number of factors: continued normalization of political and economic relations, increased export competition for WE(12) countries on East European markets, the growing significance of WE(12) government-backed export credits, continued liberalization of discriminatory West European import barriers, expansion of the EC to nine members and the conclusion of free trade agreements between the EC and individual European Free Trade Association (EFTA) members, foreign trade reforms in several CMEA(6) countries, a determined reorientation by several East European countries of their trade towards the West, and most recently, the severe macro-economic disturbances affecting the Western economic system.

By the mid-1960s most West and East European countries had basically normalized their mutual political and economic relations. The most significant exceptions were the two countries which together are involved in roughly one-third of all intra-European East-West trade: the FRG and the GDR. Only by virtue of its *Ostpolitik* begun in the late 1960s and its treaties with a number of East European countries in the early 1970s did the FRG finally more or less normalize its political and economic relations with Eastern Europe. The signing of the *Grundvertrag* between the GDR and the Federal Republic, recognition of the GDR by most Western countries and the admittance of the two countries to the United Nations in 1973 culminated a normalization phase which had gradually evolved over a number of years. A symbol of the more general East-West normalization process was the signing of the Helsinki *Final Act* in August 1975.

Throughout the past decade the WE(12) have embargoed from export to Eastern Europe only a narrow core of strategic products, those for which the collective Western embargo machinery (COCOM) still applies. Indeed, in the late 1960s West European firms enjoyed a considerable competitive advantage in Eastern Europe over U.S.-based firms which were still subject to the wideranging unilateral (extra-COCOM) U.S. export controls.<sup>2</sup> By 1970, however, significant new U.S. "decontrolling" was under way, and the United States even began to exert pressure for relaxation of the embargo on various COCOM-controlled products and technology. The decontrolling, and the more general dramatic turnaround in U.S. East-West trade policy from control to promotion, has undoubtedly led to greater competition for the WE(12) on the export markets of the CMEA(6). (The extent of this competition is probably less than they face from the U.S. on the Soviet market, however, and should not be exaggerated.<sup>3</sup>)

It was only in the mid-1960s that governmentally backed export credits became a significant competitive factor in WE(12) East-West trade. While it is difficult to prove that the East Europeans historically have obtained preferential terms on government backed credits, there is little doubt that official credit support (OCS) has played a relatively important role in exporting to the socialist countries.

<sup>2</sup> For evidence on the past restrictiveness of the U.S. strategic export controls program, see Thomas A. Wolf, "A Note on the Restrictive Effect of Unilateral United States Export Controls", *Journal of Political Economy* 81(1), Jan./Feb. 1973; and Josef C. Brada and Larry J. Wipf, "The Impact of U.S. Trade Controls on Exports to the Soviet Bloc", *Southern Economic Journal* 41(1), July 1974.

<sup>3</sup> See Thomas A. Wolf, "U.S.-West German Competition in Exporting Manufactured Products to Eastern Europe and the Soviet Union", *Jahrbuch der Wirtschaft Osteuropas*, Band 7, 1976.

Between 1963 and 1970, for example, while only 3.5 percent of French exports went to CMEA countries, 28.9 percent of French OCS for export credits of more than five-years supported exports to that region. In 1972, the proportion of the five major Western grantors' (of credits to the East) worldwide OCS authorizations to the CMEA countries was 3.3 times the proportion of these countries' total exports directed to the CMEA region.<sup>4</sup> Among the larger WE(12) countries, France, Italy and the United Kingdom appear to have relied on sizable and generous government-backed credits in an attempt to maintain CMEA market-share against West German and more recently U.S. competition. Given the high capital goods intensity of exports to the East, however, and continuing uncertainties involved in East-West trade, the relatively large provision of government credit support may not have been inordinate.<sup>5</sup>

Most West European countries have for some time either *de jure* or *de facto* extended non-discriminatory, or most-favored-nation (MFN) tariff status to imports from Eastern Europe. MFN tariffs have therefore not been an issue except to the degree that the East Europeans have chosen to view tariff-free trade *within* the two West European trade blocs (EC and EFTA), as constituting discrimination against all non-members of these blocs. Another argument frequently encountered in Eastern Europe is that, particularly for heretofore residual suppliers (ie, CMEA(6)), the existence of high West European tariffs on some products may *de facto* discriminate against them in their attempts to gain significantly larger market-shares in WE(12) markets, even though there exists no *formal* discrimination (*vis a vis* other non-bloc suppliers).

There are also East European fears that the free trade agreements signed between the EC and EFTA members, designed to eliminate tariffs on a broad range of products by 1977, may be seriously diverting imports away from CMEA(6) suppliers. For example, one study estimates that as a direct result of trade diversion to EC producers Hungary's share of Austrian imports may decline for nearly one-fifth of those Hungarian products currently exported to that country.<sup>6</sup> Particularly affected, it is argued, are foodstuffs and crude materials, which together comprise over one-half of Hungarian exports to Austria.<sup>6</sup>

Discriminatory West European quantitative restrictions (QRs) on imports from CMEA countries are also interpreted by the latter as violating the principle of MFN. Indeed, removal of these QRs has in some cases not kept pace with the QR elimination provided for in the GATT accession protocols of several CMEA(6) countries.<sup>7</sup> Nevertheless, there has been considerable liberalization, including elimination, of many WE(12) countries' discriminatory QRs over the past 10-15 years. Recent studies of QR liberalization in Austria and the FRG for the period 1966-1972 indicate that these countries (and probably most of the WE(12)) tended in the past to follow "selective" liberalization strategies, eliminating QRs on a wide range of products but

<sup>4</sup> See Thomas A. Wolf, "East-West Trade Credit Policy: A Comparative Analysis", in Paul Marer (ed.) *U.S. Financing of East-West Trade: The Political Economy of Government Credits and The National Interest* (Bloomington: International Development Research Center, Indiana University, 1975), pp. 149-199. The five countries were France, the FRG, Italy, the United Kingdom (all WE(12) countries) and Japan.

<sup>5</sup> An argument along these lines is developed in *ibid.*

<sup>6</sup> Frigyes Horchler, "The Future of Austro-Hungarian Foreign Trade", *Forschungsbericht* Nr. 27 des Wiener Instituts fuer Internationale Wirtschaftsvergleiche, June 1975.

<sup>7</sup> For a detailed analysis of existing West European policies on imports from Eastern Europe, see the paper by Karen Taylor in this volume.

retaining QRs precisely on many of those products in which CMEA countries appear to have a potential export potential which threatens domestic producers. These studies also suggest that discriminating QRs do in fact restrict manufactures imports from some CMEA(6) countries, with the evidence being strongest for the FRG, where the degree of liberalization was greater during the period examined. This contradicts the conventional wisdom in the West that because of supply inelasticities and poor product quality and marketing the East Europeans cannot take advantage of the new export opportunities afforded by QR elimination.<sup>8</sup>

Foreign trade reforms were carried out by some CMEA(6) countries in the past decade. In 1968 Hungary, as part of its New Economic Mechanism (NEM), embarked on foreign trade reforms designed *inter alia* to establish an organic link between world market and domestic prices and to induce domestic enterprises to plan and produce more efficiently under the pressure of foreign competition. Less comprehensive reforms of a similar nature were undertaken in Poland after 1971. These reforms should have led, *ceteris paribus*, to at least some reorientation of foreign trade towards the West.

Also included in the reforms were new tariff structures (Hungary: 1968; Poland 1976) designed to replace direct quantitative controls over most imports with "parametric" tariff schedules which would reflect both the planners' preferences as to import composition and the desire to reinforce the direct linkage of foreign and domestic prices. While the tariff schedules are designed to be non-discriminatory, it is not clear that they have had or will have any direct impact on the overall (East vs. West) geographical distribution of these countries' imports. Furthermore, the question arises whether all Western trade partners receiving equal tariff treatment can really expect to obtain equal access to these countries' import markets. Indeed, it is commonly believed that a great deal of *ex ante* bilateralism persists in Eastern Europe. Non-discrimination among WE(12) exporting countries is an even more speculative proposition for the other CMEA(6) countries. This holds even for Romania, which in its 1971 accession to GATT pledged in effect to meet a global quota on imports from GATT members (these imports were to increase at an annual rate no less than the rate of growth of Romania's imports as provided for in its Five-Year Plans). This is because fulfillment of a global quota could still entail substantial discrimination among Western supplier countries.<sup>9</sup>

With the general shift in emphasis by CMEA countries in the 1960s towards more intensive growth strategies and greater participation in the "international division of labor", each CMEA(6) country has stepped up its purchases of machinery and technology from the West over the past decade. The increased reliance on imports from Western Europe was particularly notable for Romania in the late 1960s and

<sup>8</sup> See Thomas A. Wolf, "The Impact of Elimination of West German Quantitative Restrictions on Imports from Centrally Planned Economies", *Weltwirtschaftliches Archiv* 112(2), 1976; and Thomas A. Wolf, "The Effects of Liberalization of Austrian Quantitative Restrictions on Imports from CMEA Countries", *Empirica* (1), 1976. For a different view of the restrictiveness of West European QRs, see Josef C. Brada and Larry J. Wipf, "The Export Performance of East European Nations in Western Markets", *Weltwirtschaftliches Archiv*, Band 111, 1975.

<sup>9</sup> For a more extensive discussion of East European discrimination in East-West trade, see Thomas A. Wolf, "Progress in Removing Barriers to East-West Trade: An Assessment", in Franz Nemschak (ed.) *World Economy and East-West Trade* (Vienna: Springer, 1976), pp. 111-127.

for Poland in its dramatic trade reorientation after 1971. Romania was also able to considerably expand the share of its exports moving in a westward direction during this period (see Table 6).

Since 1973, rapid inflation and sudden shifts in terms of trade on world markets, followed by severe recession in the industrialized West, have combined to noticeably affect intra-European trade. Faced by rising domestic unemployment and deteriorating trade balances, many WE(12) countries have been recently pushing exports to the East with particular vigor, assisted in some cases by extensive and generous government supported credits. At the same time, formal and informal mechanisms to restrict imports from the CMEA(6) have been utilized to protect domestic employment and/or as anti-dumping measures.<sup>10</sup>

Several CMEA(6) countries, notably those with significant domestic raw materials and fuel deficits (Czechoslovakia, GDR and Hungary) have experienced a dramatic deterioration in their hard currency terms of trade, while others (notably Poland) have benefited from recent changes in world price relatives. Reduced real exports caused two CMEA(6) countries' exports to WE(12) to decline in value terms between 1974 and 1975, and other East European countries' exports to WE(12) grew slowly by recent historical standards.<sup>11</sup> Whereas in 1971 the CMEA(6) had a combined trade surplus of \$11.1 million with the WE(12), the Polish import drive and the adverse effects of terms of trade changes and the loss of Western export markets had resulted in a combined CMEA(6) trade deficit with WE(12) of \$3.9 billion by 1975. According to Western statistics, the cumulative 1971-1975 CMEA(6) trade deficits with the WE(12) amounted to \$9.1 billion (see Table 1). These balance of payments problems have most recently caused several CMEA(6) countries to slow the growth of their own imports from the WE(12) and the West more generally. Romanian imports from WE(12) actually declined in 1975 (in value) and Hungary's imports from this region remained virtually unchanged.<sup>12</sup>

TABLE 1.—EAST EUROPEAN COUNTRIES (CMEA(6)) TRADE BALANCES WITH WESTERN EUROPE (WE(12)), 1971-75  
[In million of U.S. dollars]

	1971	1972	1973	1974	1975	Cumulative
Bulgaria.....	(\$42.7)	(\$70.1)	(\$105.7)	(\$381.3)	(\$672.5)	(\$1,273.3)
Czechoslovakia.....	(58.8)	1.3	(81.4)	(245.0)	(268.0)	(651.9)
German Democratic Republic.....	(33.0)	(227.4)	(179.8)	(210.9)	(296.4)	(953.5)
Hungary.....	(88.3)	(42.6)	10.8	(470.5)	(525.9)	(1,116.5)
Poland.....	236.1	(158.6)	(814.1)	(1,539.9)	(1,841.6)	(4,118.1)
Romania.....	3.8	(130.4)	(174.6)	(382.7)	(268.3)	(952.2)
CMEA(6).....	11.1	(627.8)	(1,344.8)	(3,230.3)	(3,872.7)	(9,064.5)

Source: Calculated from Bureau of East-West Trade, "Selected Trade and Economic Data of the Centrally Planned Economies" (Washington, D.C., U.S. Department of Commerce, September 1976), based on United Nations data.

<sup>10</sup> See the paper by Karen Taylor in this volume.

<sup>11</sup> Bulgaria and Hungary exported less to WE(12) in value terms in 1975 than in 1974. See Bureau of East-West Trade (BEWT), *Selected Trade and Economic Data of the Centrally Planned Economies* (Wash., D.C.: U.S. Department of Commerce, September 1976).

<sup>12</sup> Calculated from *ibid.*

### III. TRENDS IN COMMODITY COMPOSITION, GROWTH, AND GEOGRAPHICAL DISTRIBUTION OF INTRA-EUROPEAN EAST-WEST TRADE

#### *A Commodity Composition*

Roughly 87 percent of total 1975 WE(12) exports to Eastern Europe of \$12.5 billion was accounted for by manufactured products (SITC 5-8)-Tables 2 and 4). The proportion of manufactures in WE(12) exports was uniformly high (84 to 93 percent) among the CMEA(6) countries, and is higher than the proportion of manufactures in total OECD trade with the entire CMEA region (82 percent).<sup>13</sup> Machinery accounted for 38 percent and manufactures classified by material (SITC 6) accounted for 30 percent of total WE(12) exports to Eastern Europe. Miscellaneous manufactured products (which include most consumers goods) made up less than 4 percent of WE(12) exports, while chemicals and chemical products accounted for 15 percent. Although WE(12) exports to Eastern Europe have always been predominantly manufactures, the relative importance of these products has increased significantly (from 76 to 87 percent) since 1965. This has been largely offset by a decline in the share of agricultural exports (SITC 0, 1, 4) in the past decade (see Table 4).

The structure of CMEA(6) exports to WE(12) has undergone an even more striking transformation since 1965. Agricultural exports have fallen from 35 to 19 percent of total exports at the same time that crude materials and fuels have remained at about 25-30 percent and the share of manufactures has increased from 36 to 51 percent. (By contrast, in 1975 manufactures accounted for only 36 percent of *total* CMEA exports to the entire OECD region.<sup>14</sup>) There remains, however, considerable variability in export structure among the CMEA(6) countries, with the proportion of manufactures exports ranging from 38 percent (Poland) to almost 70 percent (GDR). Roughly one-third of Hungarian and 40 percent of Bulgarian exports to WE(12) are agricultural products, while almost one-half of Polish exports to Western Europe consist of fuels and raw materials. Consumer goods such as clothing and furniture make up over 20 percent of Romanian exports to Western Europe, with another 20 percent consisting of oil-based fuels (see Table 3).<sup>15</sup>

<sup>13</sup> Heinrich Machowski, "Abbau des Ungleichgewichtes im Ost-West-Handel", *Wochenbericht* 39/76 (Berlin: Deutsches Institut fuer Wirtschaftsforschung, 30 September 1976).

<sup>14</sup> *Ibid.*

<sup>15</sup> For a more extensive discussion of the commodity composition of Eastern European exports to the West more generally, see the paper by Allen J. Lenz and Hedja Kravalis in this volume.

TABLE 2.—COMMODITY COMPOSITION OF WEST EUROPEAN (WESTERN EUROPE (12)) 1975 EXPORTS TO INDIVIDUAL COUNCIL OF MUTUAL ECONOMIC ASSISTANCE (6) COUNTRIES<sup>1</sup>

[In percent]

	Bulgaria	Czechoslovakia	German Democratic Republic	Hungary	Poland	Romania
SITC:						
0.....	2.6	3.7	5.9	4.9	5.4	4.5
1.....	.4	.5	1.4	.4	.1	.1
2.....	2.1	6.1	8.0	4.7	4.9	2.7
3.....	1.0	1.6	.1	.4	.1	3.4
4.....	.1	.7	.5	.4	.4	.6
5.....	12.0	21.7	20.7	25.3	10.9	11.7
6.....	29.7	18.7	27.1	32.0	32.2	35.3
7.....	48.4	39.4	32.3	26.4	41.2	38.0
8.....	3.0	6.8	3.5	4.8	3.0	3.1
9.....	.7	1.1	.5	.8	1.7	.5
Total <sup>2</sup> .....	100.0	100.0	100.0	100.0	100.0	100.0
5 to 8.....	93.1	86.6	83.6	88.5	87.3	88.1

<sup>1</sup> Include exports of Canada and Japan to CMEA(6), resulting in probable biasing of the percentages by less than 1 percentage point. Excludes Federal Republic of Germany-German Democratic Republic trade.

<sup>2</sup> Columns may not add to 100 percent due to rounding.

Source: Calculated from Bureau of East-West Trade, Selected Trade and Economic Data of the Centrally Planned Economies (Washington, D.C., U.S. Department of Commerce, September 1976), based on United Nations data.

TABLE 3.—COMMODITY COMPOSITION OF INDIVIDUAL EAST EUROPEAN (COUNCIL OF MUTUAL ECONOMIC ASSISTANCE (6)) 1975 EXPORTS TO WESTERN EUROPE (WESTERN EUROPE (12))<sup>1</sup>

[In percent]

	Bulgaria	Czechoslovakia	German Democratic Republic	Hungary	Poland	Romania
SITC:						
0.....	29.1	8.2	15.1	32.5	13.7	16.6
1.....	11.6	.4	1.4	1.4	.6	.6
2.....	6.4	11.4	7.5	9.1	10.4	7.8
3.....	1.9	14.3	6.8	2.1	37.0	20.8
4.....	1.0	.3	.6	.1	.3	3.3
5.....	5.2	6.8	16.8	7.0	3.6	4.8
6.....	18.2	26.9	17.1	16.2	13.8	16.5
7.....	9.1	15.5	18.5	8.2	11.3	6.3
8.....	12.4	14.6	17.3	20.8	9.3	22.8
9.....	5.0	1.6	.3	2.6	.....	.4
Total <sup>2</sup> .....	100.0	100.0	100.0	100.0	100.0	100.0
5-8.....	44.9	63.8	69.7	52.2	38.0	50.4

<sup>1</sup> Include exports of Council of Mutual Economic Assistance (6) to Canada and Japan, resulting in probable biasing of the percentages by less than 1 percentage point. Excludes Federal Republic of Germany-German Democratic Republic trade.

<sup>2</sup> Columns may not add to 100 percent due to rounding.

Source: Calculated from Bureau of East-West Trade, Selected Trade and Economic Data of the Centrally Planned Economies (Washington, D.C., U.S. Department of Commerce, September 1976), based on United Nations data.

TABLE 4.—COMMODITY COMPOSITION OF EAST-WEST EUROPEAN TRADE (1965, 1970, AND 1975)

[In percent]

	West European (West European (12)) exports to Council of Mutual Economic assistance (6)			East European (Council of Mutual Eco- nomic assistance (6)) exports to West European (12)		
	1965	1970	1975 <sup>1</sup>	1965	1970	1975 <sup>1</sup>
SITC:						
0 (Food and live animals).....	12.4	8.0	4.7	32.8	26.5	16.7
1 (Beverages and tobacco).....	.2	.4	.4	1.6	1.2	1.0
2 (Crude materials).....	9.2	5.5	4.7	17.7	14.6	9.5
3 (Fuels).....	.6	1.4	.9	10.3	10.2	19.7
4 (Animal and vegetable oils)....	.7	.6	.4	.9	1.6	.9
5 (Chemicals).....	15.5	14.9	15.6	6.9	6.9	6.5
6 (Manufactures).....	26.4	27.2	30.0	15.3	19.7	17.7
7 (Machinery).....	30.7	36.7	38.2	6.4	8.7	11.5
8 (Miscellaneous manufactures)....	3.4	4.7	3.9	7.0	9.6	1.54
9 (NEC).....	.9	.6	1.1	.8	.9	1.0
Total <sup>2</sup> .....	100.0	100.0	100.0	100.0	100.0	100.0
0, 1, 4.....	13.3	9.0	5.5	35.3	29.3	18.6
2, 3.....	9.8	6.9	5.6	28.0	24.8	29.2
5 to 8.....	76.0	83.5	87.7	35.6	44.9	51.1

<sup>1</sup> 1975 figures include Council of Mutual Economic Assistance (6) trade with Canada and Japan. The bias in each case is probably less than 1 percentage point. Excludes Federal Republic of Germany-German Democratic Republic trade.

<sup>2</sup> Columns may not add to 100 percent due to rounding.

Source: Calculated from Bureau of East-West Trade, Selected Trade and Economic Data of the Centrally Planned Economies (Washington, D.C.: U.S. Department of Commerce, September 1976), based on United Nations data.

The asymmetrical (or complementary, depending on the point of view) East-West trade commodity structure persists, but as Table 4 indicates, it is far less asymmetrical than just a decade ago. In this connection it is noteworthy that the commodity structure of East European exports to the FRG has undergone significant transformation since 1965. While only 16 percent of combined imports from Bulgaria, Czechoslovakia, Hungary, Poland and Romania (CMEA(5)) were classified as *Fertigwaren* (manufactured goods) in 1965, this percentage had risen to 35 percent by 1970 and 45 percent by 1975.<sup>16</sup> This would appear to be at least partly attributable to the elimination of QRs on a wide range of manufactured products in the 1966-1973 period.<sup>17</sup> By 1974, imports from the CMEA(5) accounted for 9.1, 8.8 and 5.3 percent of total FRG imports of clothing, woodenware and glass and glassware respectively.<sup>18</sup>

### B. Growth of Trade

As indicated in Table 5, WE(12) exports to Eastern Europe have grown somewhat faster than their total exports over the past decade. Accounting for 2.7 percent of WE(12) exports in 1965, exports to the CMEA(6) comprised 3.5 percent of total exports by 1974, and the 1975 figure was probably higher. This compares with analogous proportions of 1.4 percent for WE(12) exports to the Soviet Union, and 0.8 and 0.6 percent for U.S. exports to CMEA(6) and the U.S.S.R. in 1974. The growing weight of exports to CMEA(6) has been particularly notable in the FRG, Sweden and Switzerland. Corresponding to this growth in relative importance of WE(12) East-West exports

<sup>16</sup> Jochen Bethkenhagen, "Osthandel der Bundesrepublik Deutschland in einer Konsolidierungsphase", *Wochenbericht* 14/76 (Berlin: Deutsches Institut fuer Wirtschaftsforschung, 8 April 1976).

<sup>17</sup> See Wolf, "The Impact of Elimination of West German Quantitative Restrictions on Imports from Centrally Planned Economies", *op. cit.*

<sup>18</sup> Bethkenhagen, *op. cit.*

for the West Europeans has been the striking increase in the proportion of Romanian and Polish imports originating from the WE(12) (see Table 6). Indeed, by 1974-75 Poland was purchasing 40 percent of its *total* imports (East and West) from the WE(12). A far less dramatic, but still upward trend has been evident for most of the other CMEA countries, including the Soviet Union.

TABLE 5.—WEST EUROPEAN (WESTERN EUROPE (12)) TRADE WITH EASTERN EUROPE (COUNCIL OF MUTUAL ECONOMIC ASSISTANCE (6)) AS PROPORTION OF TOTAL WEST EUROPEAN TRADE (1965, 1970, AND 1974)

	[In percent]					
	Western Europe (12) exports			Western Europe (12) imports		
	1965	1970	1974	1965	1970	1974
Austria.....	11.7	10.0	12.4	8.2	7.1	7.1
Belgium/Luxembourg.....	1.1	1.0	1.6	1.2	.9	1.0
Denmark.....	2.9	2.6	3.0	2.8	2.5	3.0
France.....	2.3	2.1	2.1	1.2	1.3	1.4
Federal Republic of Germany.....	4.1	4.4	5.7	3.9	4.3	4.3
Italy.....	3.1	3.0	3.4	3.5	3.6	2.6
Netherlands.....	1.2	1.4	1.8	1.3	1.2	1.2
Norway.....	3.1	1.5	1.7	1.8	1.4	1.9
Sweden.....	2.6	3.0	3.8	2.5	2.5	2.7
Switzerland.....	2.3	3.1	3.8	1.9	1.4	1.7
United Kingdom.....	1.4	1.9	1.9	1.8	1.6	1.2
Western Europe (12).....	2.7	2.9	3.5	2.5	2.5	2.4
Western Europe (12) with U.S.S.R.....	.9	1.3	1.4	1.4	1.1	1.5

Source: Calculated from OECD Trade By Commodities (series C), 1965, 1970, and OECD, Statistics of Foreign Trade (series A), December 1975).

TABLE 6.—EAST EUROPEAN (COUNCIL OF MUTUAL ECONOMIC ASSISTANCE (6)) AND SOVIET TRADE WITH WESTERN EUROPE (WESTERN EUROPE (12)) AS A PROPORTION OF TOTAL EAST EUROPEAN TRADE (1965, 1970, AND 1973)

	[In percent]					
	Council of Mutual Economic Assistance (6) exports			Council of Mutual Economic Assistance (6) imports		
	1965	1970	1973	1965	1970	1973
Bulgaria.....	12.3	12.5	11.4	18.7	15.8	13.9
Czechoslovakia.....	14.3	17.6	18.9	14.5	21.7	20.5
German Democratic Republic.....	14.6	16.5	15.7	16.9	19.6	21.6
Hungary.....	20.4	25.7	23.0	22.2	25.3	25.1
Poland <sup>1</sup> .....	21.9	22.0	26.4	18.5	21.2	35.1
Romania.....	15.8	28.0	29.1	19.4	33.7	34.4
U.S.S.R.....	12.1	12.5	15.5	9.4	14.1	14.7

<sup>1</sup> In 1974 the percentages for Poland were 27.6 and 40.8 for exports and imports respectively. Corresponding Polish figures for 1975 were 24.2 and 39.6 percent.

Source: B. Askanas, H. Askanas and F. Levciik, "Structural Developments in CMEA Foreign Trade Over the Last 15 Years (1960-74)", Forschungsbericht Nr. 23 des Wiener Instituts fuer Internationale Wirtschaftsvergleiche (Vienna: February 1975); and Bronislaw Wojciechowski, Polish Foreign Trade 1975 (Warsaw: Polish Chamber of Foreign Trade, 1976).

Only Romania has significantly increased the proportion of its total exports going to WE(12) in the past decade (from 16 percent in 1965 to 29 percent in 1973), although other countries, such as Czechoslovakia, Hungary and Poland, have also increased their reliance on West European export markets. As we might expect from the aforementioned growing CMEA(6) trade deficits in their trade with Western Europe, the East European countries have not been able to increase their share of total WE(12) imports over the past decade (see Table 5). Their import share in the largest WE(12) market, the FRG, has essentially stagnated since 1970.<sup>19</sup> Only in

<sup>19</sup> CMEA(5) import-share in the FRG actually peaked in 1973 at 2.9 percent, which compared with 2.5 percent in 1970 and 2.6 percent in 1975. In 1974, FRG imports from the CMEA(5) declined by 8.1 percent in *real* terms. (See Bethkenhagen, *op. cit.*).

France and Sweden were the CMEA(6) able consistently to increase their import market-shares between 1965 and 1974. (As with exports, the most dependent of all the WE(12) countries on imports from Eastern Europe, in terms of its weight in overall imports, is Austria.)

In view of the improving commodity composition of CMEA(6) exports over this same period, the inability of these countries to increase their share of overall WE(12) imports is somewhat mystifying, and certainly disturbing to the East Europeans. This development is likely due to a combination of factors. One possibility is that rapidly expanding domestic demand for many exportables in the CMEA countries has caused export supply to be relatively income inelastic. Furthermore, despite the evidence that these countries can take advantage of QR liberalization and can improve the commodity structure of their exports, they may not be as successful as many market economy competitors in moving into exportables that are relatively income elastic in WE(12) demand.<sup>20</sup> Diversion of EC and EFTA imports towards one another and away from Eastern Europe, as a result of their mutual free trade agreements, may be another explanatory factor. Moreover, in the past two or three years the severe recession in many of the WE(12) has affected their imports more generally, and if the CMEA(6) can in many cases be considered truly "residual" suppliers, they might be the first to be adversely affected. Finally, a number of non-tariff barriers (NTBs) continue to hinder the East Europeans in their attempts to penetrate WE(12) markets, and NTBs have undoubtedly been used with particular urgency in the most recent period of WE(12) preoccupation with minimizing unemployment.<sup>21</sup>

### *C. Geographical Distribution*

The Federal Republic of Germany is by far the dominant exporter to Eastern Europe. In 1975 the FRG accounted for from 31 percent (Poland) to 62 percent (GDR) of WE(12) exports to individual CMEA(6) countries (see Table 7). Overall, the FRG was responsible for 41 percent of WE(12) exports to CMEA(6), almost identical to its share of WE(12) exports to the Soviet Union in that year. Following the FRG in terms of export market-share in Eastern Europe were France (11 percent), Italy (9 percent), Austria (8 percent) and the U.K. and Sweden (6 percent). Noteworthy is that the French and Italian shares are considerably higher in the U.S.S.R. than in Eastern Europe.

<sup>20</sup> For some tentative and not totally unambiguous evidence regarding the relative income elasticity of FRG demand for CMEA(6) exports, see Thomas A. Wolf, "The Relative Income Elasticity of Demand for Socialist Exports: The West German Case", in Josef C. Brada (ed.), *Quantitative and Analytical Studies in East-West Economic Relations* (Bloomington: International Development Research Center, Indiana University, 1976), pp. 51-70.

<sup>21</sup> For a detailed listing of various administrative restrictions in East-West trade, see Economic Commission for Europe, *Consolidated Inventory of Administrative Restrictions in East-West Trade*, Trade/R.336, 8 October 1976.

TABLE 7.—GEOGRAPHICAL DISTRIBUTION OF WEST EUROPEAN (WESTERN EUROPE (12)) EXPORTS TO EASTERN EUROPE (COUNCIL OF MUTUAL ECONOMIC ASSISTANCE (6)), 1975

[In percent]

	Bulgaria	Czecho- slovakia	German Demo- cratic Republic	Hungary	Poland	Romania	CMEA (6) <sup>1</sup>
Austria.....	7.0	11.6	4.7	16.5	7.8	5.8	8.4
Belgium/Luxembourg.....	4.0	3.8	3.1	2.8	5.1	3.9	4.0
Denmark.....	1.2	1.8	1	1.6	3.1	.6	1.9
France.....	12.8	9.6	7.3	10.0	14.7	13.4	11.5
Federal Republic of Germany.....	43.6	41.2	62.0	35.0	30.8	44.0	41.5
Italy.....	13.8	7.3	3.6	11.5	9.6	14.2	9.1
Netherlands.....	3.7	5.4	5.1	5.2	4.4	4.0	4.7
Norway.....	.4	1.4	1.9	.5	1.5	.7	1.3
Sweden.....	3.9	4.6	6.3	4.6	9.7	3.3	6.3
Switzerland.....	4.0	6.4	3.0	6.3	4.2	4.4	4.4
United Kingdom.....	5.4	6.8	3.0	5.9	9.2	5.8	6.6
Western Europe (12) total <sup>2</sup> .....	100.0	100.0	100.0	100.0	100.0	100.0	100.0

<sup>1</sup> 1975 exports to Council of Mutual Economic Assistance (€) for each Western Europe (12) country were (in millions of dollars): Austria (\$1,063,300), Belgium-Luxembourg (\$504,800,000), Denmark (\$241,000,000), France (\$1,453,100), Federal Republic of Germany (\$5,227,300), Italy (\$1,151,500), Netherlands (\$588,100,000), Norway (\$158,900,000), Sweden (\$803,000,000), Switzerland (\$560,000,000) and the United Kingdom (\$829,200,000).

<sup>2</sup> Rows may not add to 100 percent due to rounding.

Source: Calculated from Bureau of East-West Trade, Selected Trade and Economic Data of the Centrally Planned Economies (Washington, D.C., U.S. Department of Commerce, September 1976), based on United Nations data.

While the FRG has traditionally been the dominant exporter to Eastern Europe, the extent of its dominance has increased significantly just since the late 1960s. Undoubtedly *Ostpolitik* paved the way for this resurgence in export share, but it should also be recognized that it has only been in the 1970s that the FRG has surpassed the United States as the world's largest exporter of manufactured products. Consequently, the expansion of export market-share in the East is partly a concomitant of more general competitive developments. Roughly coinciding with the FRG's increasing share of exports to CMEA has been the striking deterioration of the British position in CMEA markets. The United Kingdom accounted for 16.7 percent of Atlantic area industrialized countries' (WE(12), U.S. and Canada) exports of manufactures to CMEA in 1961, but by 1974 this share had fallen to 6.3 percent.<sup>22</sup>

The FRG export market-shares in Eastern Europe are not so disproportionate if taken in the perspective of that country's dominant share of manufactured goods exports to Western Europe. It has been argued elsewhere that given the apparent *relative* complementarity of FRG export and CMEA import structures, possible transport-sales-service cost advantages of the FRG in exporting to the East, the close historical-cultural ties as well as the continued high regard in that area for Germany engineering, a higher FRG market-share in East than West Europe might be expected. Indeed, East-West bilateralism pressures emanating from the East as well as from some of the less competitive WE(12) countries may be keeping the German share of CMEA(6) markets below its "normalized" level.<sup>23</sup>

East European exports to the West are not typically discussed in terms of the "competitive shares" of each CMEA(6) country in the individual Western countries. Nevertheless, it is interesting to note

<sup>22</sup> Wolf, "U.S.-West German Competition in Exporting Manufactured Products to Eastern Europe and the Soviet Union", *op. cit.*

<sup>23</sup> See *ibid.*

that by 1973 Poland had surpassed the GDR as the dominant CMEA (6) exporter to Western Europe (see Table 8). Each country accounted for roughly one-quarter of CMEA(6) exports to WE(12), followed by Czechoslovakia (16 percent), Romania (14 percent), Hungary (13 percent) and Bulgaria (3 percent). Poland was the dominant exporter in all WE(12) markets except in the FRG (where the GDR had 41 percent of CMEA(6) exports) and Austria and Switzerland (where Czechoslovakia dominated). Noteworthy is that GDR exports to the FRG accounted for 62 percent of GDR exports to the entire WE(12). By contrast, while the FRG accounts for over 60 percent of WE(12) exports to the GDR, its sales to the GDR amount to only 29 percent of its total exports to CMEA(6). This only highlights the relatively greater importance of *innerdeutschen Handel* ("inner German trade") for the GDR than for the FRG in East-West trade.<sup>24</sup>

TABLE 8.—GEOGRAPHICAL DISTRIBUTION OF EAST EUROPEAN (COUNCIL OF MUTUAL ECONOMIC ASSISTANCE (6)) EXPORTS TO WESTERN EUROPE (WE(12)), 1975

	Bulgaria	Czechoslovakia	German Democratic Republic	Hungary	Poland	Romania	CMEA(6) total
Austria.....	3.9	30.0	11.0	21.8	23.1	10.1	100
Belgium/Luxembourg.....	3.4	15.8	25.5	8.1	38.6	8.6	100
Denmark.....	1.8	11.6	17.4	7.6	52.4	9.2	100
France.....	3.9	11.3	17.7	10.0	38.2	18.9	100
Federal Republic of Germany.....	2.9	14.3	41.5	11.2	17.8	12.3	100
Italy.....	6.3	12.1	8.3	20.6	29.3	23.4	100
Netherlands.....	1.3	17.5	16.0	13.9	29.2	22.1	100
Norway.....	1.6	22.9	20.0	8.9	42.7	3.9	100
Sweden.....	1.4	13.7	28.6	9.7	34.8	11.8	100
Switzerland.....	4.1	29.6	10.4	23.2	17.9	14.8	100
United Kingdom.....	2.6	21.0	13.8	9.3	40.6	12.6	100
Western Europe(12) <sup>2</sup> .....	3.2	16.0	25.6	12.9	27.8	14.4	100

<sup>1</sup> Rows may not add to 100 percent due to rounding.

<sup>2</sup> 1975 exports to Western Europe (12) for each Council of Mutual Economic Assistance (6) country were (in millions of dollars): Bulgaria (\$280,300,000), Czechoslovakia (\$1,381,600), German Democratic Republic (\$2,203,200), Hungary (\$1,112,100), Poland (\$2,397,500) and Romania (\$1,238,900).

Source: Calculated from Bureau of East-West Trade, Selected Trade and Economic Data of the Centrally Planned Economies (Washington, D.C., U.S. Department of Commerce, September 1976), based on United Nations data.

#### IV. CONCLUSIONS

Generally favorable policy changes in both Eastern and Western Europe have encouraged the growth and changing structure of intra-European East-West trade over the past decade. An ever greater proportion of East-West trade between the WE(12) and CMEA(6) consists of manufactured products. The sharp decline in the importance of CMEA(6) agricultural exports and the equally dramatic increase in manufactures exports reflects a significant transformation of East European export opportunities and capabilities. In the period 1965-1975 West European exports to CMEA(6) grew at an above average rate, but the East European countries on the whole were unable to increase their share of total WE(12) imports. These contrasting trends are reflected in the deteriorating intra-European East-West trade balance of the CMEA(6) countries. We suggested that a number of factors may help to explain the relative stagnation of East European exports. Also noted was the intense competition among WE(12)

<sup>24</sup> Because the FRG considers trade with the GDR as inner-German trade, GDR exports to the FRG enter duty-free, which means that they can also enter other EC markets as well on a duty-free basis.

countries for Eastern markets. At the policy level this is reflected in the growing importance over the past decade in governmentally-backed export credits in East-West trade. In the trade statistics this competition is apparent in changing export shares. In the past the degree of competition among the CMEA(6) for export markets in Western Europe has seldom been discussed. This competition could intensify in the post-Helsinki period, however, if in the context of increasing CMEA(6) indebtedness and continuing trade balance deficits, the East Europeans decide to make a determined effort to compete in more than a residual manner on a variety of West European markets. Whether East European balance of payments and indebtedness constraints will lead to a relative slowdown in the growth of intra-European East-West trade remains to be seen.

# AN ANALYSIS OF RECENT AND POTENTIAL SOVIET AND EAST EUROPEAN EXPORTS TO FIFTEEN INDUSTRIALIZED WESTERN COUNTRIES

BY ALLEN J. LENZ AND HEDIJA H. KRAVALIS

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## I. INTRODUCTION

*A. The Effect of Eastern Export Capabilities on Future Levels of East-West Trade*

Unsatisfied Soviet and East European needs for Western technology, manufactured goods, and grain remain large, holding the prospect of enlarging Western exports in the years ahead. Needs, however, are not the sole determinant of trade. Over the long term continued growth of East-West trade must rely on an ability of the East European countries to expand their hard currency earning exports to the West, rather than on continuing the increase in the debt that has fueled much of the recent growth of Soviet and East European imports.

The disparity between Soviet/East European hard currency imports and the exports needed to pay for them has been wide in recent years. In fact, viewing Eastern Europe and the U.S.S.R. as a whole, the 1976 hard currency trade deficit was probably about \$11 billion. After considering earnings from invisibles, arms sales, etc. on the one hand, and interest on debt requirements on the other, total net debt probably grew about \$11 billion in 1976 to an end year total of \$40 billion.

Western governments and commercial lending institutions are unlikely to continue indefinitely a rapid expansion of credit to the East. Rather, an enduring trade relationship will require an increase in Eastern hard currency earning capabilities.

There are, no doubt, opportunities for the Soviet Union and the communist countries of Eastern Europe to increase their hard currency earnings on invisibles, such as shipping and tourism. The Soviet Union may be able to earn increased amounts of hard currency from gold sales, particularly if the price should increase, and through increased arms sales. Inevitably, however, the bulk of increased hard currency earnings will have to be achieved through increased merchandise exports, i.e., shipments of foods, raw and semi-processed materials, manufactured goods and other commodities. A balancing of the 1976 Soviet-East European hard currency trade through increased merchandise exports would have required additional exports of about \$11 billion, about 50% over estimated 1976 levels.

*B. Objectives and Methodology of Paper*

Given the assumption that future levels of trade with the West will be constrained by Soviet/EE export capabilities, a basic objective of this paper is to contribute to an ability to project future trade levels through examination of Soviet/EE export capabilities. More specifically, our objectives are twofold: first, to contribute toward an understanding of near term<sup>1</sup> Soviet and East European hard currency export capabilities through examination of the volume and composition of their recent exports, along with a limited analysis of potential for the next few years; second, to provide data that may be useful to other researchers in performing their own analyses.

Our basic assumption is that genuine growth in Soviet/EE export capabilities, or changes in their composition, must normally occur in

<sup>1</sup> Throughout this paper "near term" is considered as the current plan period, i.e., through 1980.

relatively moderate stages. Examination of recent exports can therefore give an indication of the kinds of items and the likely export volumes in the years immediately ahead. Of course, Eastern exports are determined not only by their ability to supply goods, but by Western demands, which fluctuate with swings in the Western business cycle. Thus, analysis of export data and a disaggregation of total exports into individual items can also provide some indication of the sensitivity of Eastern hard currency earnings to swings in both Western demand and prices, particularly in raw and semi-processed materials items.

This paper provides data covering recent exports of the Soviet Union and each of six communist countries of Eastern Europe (Poland, German Democratic Republic, Czechoslovakia, Romania, Hungary, Bulgaria) to 15 Industrialized Western nations (I.W.).<sup>2</sup>

For each of these seven countries, the following individual data tabulations are provided:

1. Exports to the I.W. for individual years, 1972 through 1975, showing dollar value and composition by "product sections"<sup>3</sup>, i.e., at the one digit Standard International Trade Classification (SITC) level of disaggregation.

2. Rank order disaggregations showing—

- 1975 top 15 product "divisions" (2 digit SITC) exports to the I.W.<sup>4</sup>

- 1975 top 50 export "items" (5 digit SITC level of disaggregation), and

- 1974 rank and dollar value and 1973 dollar value for each of the divisions and items.

3. For each of the top twenty-five 1975 item exports to the I.W., the percent of the I.W. total absorbed by each I.W. country.

Only analysis of limited depth can be provided in this paper. Generally, we will tend to concentrate on:

Distinguishing among major export earners on the basis of whether they are "primary products", "intermediate goods" or "manufactured goods", and identifying items possibly subject to significant price variation or potentially "import sensitive" in Western countries.<sup>5</sup>

Citing emergence of new export item capabilities or the decline of earlier capabilities as an indicator of the future.

Distinguishing diversity or concentration of sales of major export items among the 15 I.W.<sup>6</sup>

<sup>2</sup> The 15 I.W. are: Austria, Belgium, Canada, Denmark, the Federal Republic of Germany (FRG), France, Italy, Japan, Luxembourg, the Netherlands, Norway, Sweden, Switzerland, the United Kingdom, and the United States. Henceforth, in this paper, unless otherwise noted, the term "I.W." refers to these 15 countries.

<sup>3</sup> The terminology used in this paper, i.e., one digit SITC=section, 2 digit SITC=division, 5 digit=item, follows the definitions stated in the *Standard International Trade Classification, Revised*, Statistical Office of the United Nations, New York, 1961.

<sup>4</sup> The SITC (1961) system defines and uses 56 two-digit product division classifications and 1312 five-digit item classifications.

<sup>5</sup> These are defined at a later point in the article. It appears that the demand and price of certain raw and semi-processed materials are particularly sensitive to the state of the Western business cycle. On the other hand, they are less likely to encounter Western tariff and non-tariff barriers and quality, style, marketing, servicing and other difficulties than manufactured goods.

<sup>6</sup> Concentration of sales in only a few of the 15 would tend to make export capabilities sensitive to economic conditions in the importing I.W. country and, conceivably could also make sales dependent on political relations between the communist country exporter and the I.W. country importer.

*C. Limitations of Methodology*

There are always significant limitations on the use of historical data in predicting future trends. Even though the recent past may be a good indicator of the near term, it has obvious faults. For example, while there is little likelihood, even for planned economies, of very large year-to-year changes in the general composition of the items that can be offered for export, Western demand, particularly for raw materials, may fluctuate. Thus, not only Eastern supply, but Western demand is important in projecting future Eastern exports, a factor which was significantly relevant in 1974-75 when Western recession decreased demand and prices of many commodities that were in ready supply.

Additionally, projections of future capabilities obviously cannot rely solely on historical data, but should make use of all available information concerning the intentions of the exporter. Thus, Five-Year Plans and other indicators of intent (such as countertrade arrangements under which Western firms agree to import specific items from the communist countries over several years in the future) should be examined in attempting to estimate future East European export capabilities. It is also important to maintain a perspective on the importers' environment such as import restriction policies.

In addition to these general problems concerning the use of historical data, the reader should be aware of a limitation which is specific to data in this study. Data available for use in this paper includes only Soviet/EE exports to 15 Industrialized Western countries. While these countries represent the major source of hard currency export earnings by the East, there are additional markets not included; e.g., some of the OECD countries, some LDCs, and hard currency exports to OPEC countries.

These additional markets are, however, limited sources of hard currency. The OECD is a good proxy for "the developed West" and provides timely and detailed statistics covering trade of its members with the world. Since the 15 I.W. countries included in our data bank are a sub-set of the OECD,<sup>7</sup> a comparison of our data with that of OECD provides one means of assessing the completeness of our coverage.

Finland, Iceland, Greece and Turkey conduct their trade with some of the CMEA countries on a "soft currency" basis, i.e. through bilateral clearing arrangements. Since our interest in this paper is in hard currency export capabilities, by deleting the OECD imports under soft currency arrangements, we can determine approximate percentages of total hard currency Soviet/EE exports to the OECD countries that are reflected in our data covering 15 Industrialized Western countries. (See Table 1.)

<sup>7</sup> OECD countries not included in our data are: Australia, Spain, Portugal, Ireland, Finland, Iceland, Greece, and Turkey.

TABLE 1.—PERCENT OF TOTAL OECD<sup>1</sup> HARD CURRENCY IMPORTS FROM U.S.S.R./EASTERN EUROPE TAKEN BY 15 INDUSTRIALIZED WESTERN COUNTRIES

Country	1974	1975
U.S.S.R. <sup>2</sup>	97	97
Poland <sup>3</sup>	88	89
German Democratic Republic <sup>4</sup>	98	98
Czechoslovakia <sup>5</sup>	93	92
Romania <sup>6</sup>	88	88
Hungary <sup>7</sup>	98	97
Bulgaria <sup>8</sup>	89	87

<sup>1</sup> OECD countries are: Belgium-Luxembourg, Denmark, France, West Germany, Ireland, Italy, Netherlands, United Kingdom, Austria, Finland, Greece, Iceland, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, Canada, United States, Japan, and Australia. Countries which do not trade in hard currency with any of the centrally planned economies listed in the table are cited under separate footnotes.

<sup>2</sup> OECD less Finland, Iceland, Greece, and Turkey.

<sup>3</sup> OECD less Greece and Turkey.

<sup>4</sup> OECD less Finland, Greece, plus West German imports from the German Democratic Republic. West Germany does not treat its trade with the GDR as foreign trade and hence does not report it to international agencies. However, West Germany is a source of hard currency earnings for the GDR. FRG-GDR trade data figures cited in this paper are derived from interzonal trade data in: Federal Republic of Germany Statistical Office, "Gross und Einzelhandel, Reihe 6."

<sup>5</sup> OECD less Finland and Greece.

Additional sources of Soviet/EE hard currency export earnings outside the OECD that are not reflected in our data are, with some exceptions, principally LDCs, and have not in the past been significant hard currency earners for the U.S.S.R. or Eastern Europe. In fact, 1975 Soviet exports to LDC hard currency countries are estimated to have been about one-seventh of total Soviet hard currency exports.<sup>8</sup> Moreover, taken as a whole, hard currency trade with the LDCs left the Soviets with nearly a billion dollar deficit in 1975, and about half a billion in both 1973 and 1974.

East European 1974 exports to LDCs were about 12% of total hard currency exports, yielding a surplus of about \$240 million. For some countries, however, exports to LDCs have been more significant. For example, LDCs took about 32% of Bulgaria's total 1974 hard currency exports and provided a surplus of about \$120 million.

The 1975 Czechoslovak trade with LDCs accounted for nearly one-fourth of hard currency exports and yielded a positive trade balance of about \$150 million. Poland's hard currency exports to LDCs in 1975 were about 20 percent of its total, yielding a surplus of about \$250 million. In 1974, Romania's LDC trade was about 15% of its hard currency total, yielding a surplus of about \$125 million.<sup>9</sup> Based on 1974 data, however, the GDR and Hungary appear to have relied less on LDC hard currency trade, both incurring deficits.

Based on the information available, we thus argue that the data used in this paper, which covers Soviet/EE exports to 15 I.W. countries, includes the great majority of Soviet/EE hard currency exports to Western developed nations, and that hard currency exports to LDCs provide a relatively minor portion of the Eastern countries' total hard currency earnings capabilities. We further argue that LDCs, excepting some OPEC countries, are generally experiencing debt and trade deficit problems of their own and therefore, as a group, are not promising targets for exports that could develop significant hard currency surpluses for the U.S.S.R. or Eastern Europe.

<sup>8</sup> The estimates of Soviet/EE hard currency trade with LDCs appearing in this section were derived by assuming that, in all instances where a bilateral clearing agreement does not exist, Soviet/EE trade with LDCs is conducted in hard currency. However, in a number of instances, exports of machinery and equipment to LDCs with whom trade appears to be on a hard currency basis, in fact involves a Soviet/EE agreement to accept compensation in product over a number of years in the future. Thus, some of the transactions contributing to a current surplus do not in fact yield hard currency, either currently or prospectively, which can be used for Soviet/EE settlement of hard currency deficits elsewhere.

We conclude then, that the hard currency trade deficits leading to the current level of Eastern debt have been generated largely on trade with the 15 I.W. countries included in the data used in this paper, that elimination of hard currency deficits will have to be achieved principally by expanding exports to these same 15 countries, and that our data are therefore useful in assessing overall near term Soviet-East European export patterns and hard currency capabilities.

Other limitations on our data include:

**Timeliness**—The most recent data available, disaggregated to the level of detail in this paper, covers 1975 Soviet/EE exports to the I.W. Similar 1976 data will not be available until mid-1977.<sup>9</sup> In making analyses of future export capabilities employing the technique used herein, there will inevitably be a lag of from six to 18 months between the period covered by the data available and the time of the analysis.

**Value and Volume**—The Western countries generally report imports on a C.I.F. (Cost, Insurance and Freight) basis. Dollar values cited in our tables thus include these costs, which vary in significance depending on the item involved; e.g., the C.I.F. charges included in a given dollar value of diamond exports are relatively less than on the same value of coal or steel exports. Additionally, using the United Nations data in our automated data bank we do not have meaningful measures of the physical volumes of export items; i.e., tons of steel, copper, etc., and even with the use of outside data we were unable to determine definitely, in all cases, whether changes in dollar value resulted from price or quantity changes.

## II. COUNTRY BY COUNTRY ANALYSIS OF SOVIET AND EAST EUROPEAN EXPORTS TO THE I.W.

In this section we analyze exports of the Soviet Union and each of the East European countries on a country-by-country basis, in descending order of dollar value of exports to the I.W. In 1975 these exports totaled \$16.6 billion, ranging from Soviet exports of \$7.1 billion down to \$0.3 million of Bulgarian shipments to the I.W.

### A. U.S.S.R.

#### 1. DATA HIGHLIGHTS

Table 2 disaggregates Soviet exports for the period 1972-75 into "sections" (at the one digit SITC level of detail). From this table we note the following:

At \$7.1 billion, 1975 exports to the I.W. were about 151% above the 1972 level, but up only 6% from 1974.

By 1975, Soviet exports of intermediate goods (SITC 5-6) were still relatively small, at \$1.4 billion representing just under 20% of the total. Over three-fourths of 1975 Soviet exports were primary products (SITC 0-4).

<sup>9</sup> This paper will be updated as soon as 1976 data are available. The revision should be available by August, 1977 and may be obtained from the authors, c/o Office of East-West Policy and Planning, Bureau of East-West Trade, Department of Commerce, Washington, D.C. 20230.

Manufactured exports were very small, with machinery and transport equipment (SITC 7) exports only \$229 million, representing only 3.2% of the 1975 total. Miscellaneous manufactures (SITC 8), at \$51 million were even smaller, and less than those of any of the East European countries, except Bulgaria.

Mineral fuels (SITC 3), including petroleum, coal, gas, increased from 28% of total hard currency earnings in 1972 to nearly 48% in 1975, largely due to increases in oil prices.

TABLE 2.—U.S.S.R.: EXPORTS TO INDUSTRIALIZED WESTERN COUNTRIES, 1972-75

[Amounts rounded to millions of U.S. dollars]

SITC	Description	1972		1973		1974		1975	
		Amount	Per cent						
0	Food and live animals.....	\$95	3.3	\$102	2.2	\$116	11.7	\$129	1.8
1	Beverages and tobacco.....	6	.2	9	.2	9	.1	13	.2
2	Crude materials, inedible, except fuels..	893	31.4	1,392	30.7	1,923	28.5	1,748	24.5
3	Mineral fuels, lubricants and related materials.....	796	28.0	1,307	28.8	2,544	37.8	3,404	47.7
4	Animal and vegetable oils and fats.....	57	2.0	52	1.1	149	2.2	122	1.7
5	Chemicals.....	83	2.9	131	2.9	279	4.1	279	3.9
6	Manufactured goods classified chiefly by material.....	788	27.7	1,343	29.6	1,511	22.4	1,123	15.8
7	Machinery and transport equipment.....	82	2.9	137	3.0	133	2.0	229	3.2
8	Miscellaneous manufactured articles.....	24	.8	37	.8	47	.7	51	.7
9	Commodities not elsewhere classified.....	21	.7	22	.5	29	.4	32	.5
	<b>Total.....</b>	<b>2,845</b>	<b>100.0</b>	<b>4,533</b>	<b>100.0</b>	<b>6,739</b>	<b>100.0</b>	<b>7,131</b>	<b>100.0</b>
0-4	Primary products.....	1,848	64.9	2,863	63.1	4,740	70.3	5,417	76.0
5-6	Intermediate goods.....	871	30.6	1,474	32.5	1,790	26.6	1,403	19.7
7-8	Manufactured goods.....	106	3.7	174	3.8	180	2.7	280	3.9

Table 3 provides the top 15 product divisions and, at the greatest level of detail available from United Nations data, the top 50 items exported to the I.W. by the U.S.S.R. Examination of these data leads to several observations:

Soviet hard currency export capabilities have been concentrated in a relatively few raw and semi-processed materials items. The top five export items constituted over 40% of the total; the top 25 items 80%; the top 50, 88%.

The top 50 1975 Soviet exports were composed of: 27 primary product items; 19 intermediate product items (15 items of manufactured goods classified by chief materials, SITC 6; four of chemicals, SITC 5); and four manufactured goods items. Only one manufactured goods item, automobiles, appears in the top 25.

Twenty-eight of the 50 top 1975 items exported increased in dollar value compared to 1974, while 22 decreased. The decreased dollar values appear to reflect the price and demand sensitivities of raw and semi-processed materials to I.W. business cycle conditions, which were relatively depressed in 1975. Furthermore, it is possible that those commodities which did increase in value might have increased even more were it not for slackened Western demand.

The top 50 items for 1975 included only two newcomers compared to a similar 1974 list. The two new commodities were tractors (rank 40) and hoopwood (rank 50). The fact that there

was little variation in the export commodity structure indicates a stability in the principal sources of hard currency income.

1975 exports of various forms of petroleum products (SITC 33) constituted some 38% of the dollar value of Soviet exports to the I.W., making it the top ranking product division, with three items in the top five alone accounting for about 28% of exports. Natural gas (SITC division 34 and item 3411) exports were an additional two percent of the total; coal and briquettes (SITC 32) contributed another six percent, raising "energy" exports to almost 48% of the total. Thus, further increases in oil prices (which would also probably raise coal and natural gas prices) are important to Soviet hard currency capabilities.

With nearly \$800 million of 1975 exports (down from one billion in 1974), wood and lumber division (SITC 24) exports, including sawlogs (SITC 24221, sixth ranking item), lumber (SITC 24321, ninth rank), and pulpwood (SITC 2421, 18th rank) were the second largest, comprising nearly 11% of the 1975 total.

At \$481 million, non-industrial diamonds (SITC 6672) were an important (fourth ranking) hard currency source.

Passenger motor vehicles achieved 17th rank in 1975, more than doubling from 1974 levels to a 76.2 million dollar total.

TABLE 3.—U.S.S.R.: LEADING 1975 EXPORTS TO INDUSTRIALIZED WESTERN COUNTRIES

[Values in thousands of U.S. dollars]

SITC	Commodity	1975 rank	1975 value	Percent of total	Cumulative percent	1974 rank	1974 value	Percent of total	Cumulative percent	1973 value	Percent of total	Cumulative percent
1975 RANK ORDER OF PRODUCT DIVISIONS (2-DIGIT SITC)												
33	Petroleum and petroleum products .....	(1)	2,730,901	38.3	-----	(1)	2,133,132	31.7	-----	1,094,128	24.1	-----
24	Wood, lumber, cork .....	(2)	797,636	11.2	-----	(2)	1,028,646	15.3	-----	779,200	17.1	-----
66	Nonmetallic mineral manufactures .....	(3)	487,463	6.8	-----	(4)	465,726	6.9	-----	481,006	10.6	-----
32	Coal, coke, briquettes .....	(4)	452,723	6.3	-----	(6)	310,819	4.6	-----	177,149	3.9	-----
68	Nonferrous metals .....	(5)	439,698	6.2	-----	(3)	837,119	12.4	70.9	672,862	14.8	70.7
26	Textile fibers .....	(6)	357,384	5.0	68.8	(5)	350,192	5.2	-----	231,295	5.1	-----
28	Metalliferous ores and metal scrap .....	(7)	258,910	3.6	-----	(7)	228,021	3.4	-----	188,856	4.2	-----
27	Crude fertilizers and crude minerals .....	(8)	232,270	3.3	-----	(8)	191,213	2.8	-----	90,612	2.0	-----
51	Chemical elements and compounds .....	(9)	162,867	2.3	-----	(9)	184,462	2.7	-----	75,816	1.7	-----
34	Gas, natural and manufactured .....	(10)	142,477	2.0	85.0	(15)	58,705	.9	85.9	28,396	.6	84.3
73	Transport equipment .....	(11)	125,062	1.8	-----	(16)	56,761	.8	-----	77,878	1.7	-----
42	Fixed vegetable oils and fats .....	(12)	117,713	1.7	-----	(10)	144,832	2.1	-----	48,432	1.1	-----
67	Iron and steel .....	(13)	87,056	1.2	-----	(11)	78,954	1.2	-----	89,885	2.0	-----
71	Machinery, other than electric .....	(14)	78,482	1.1	-----	(17)	55,074	.9	-----	44,945	1.0	-----
56	Fertilizers, manufactured .....	(15)	77,505	1.1	91.8	(14)	58,843	.9	91.7	35,343	.8	90.8
Top 15 total .....			6,548,147	91.8	-----		6,182,499	91.7	-----	4,115,803	90.8	-----
Total exports to Industrialized Western countries .....			7,131,446		-----		6,738,515		-----	4,532,594		-----
1975 RANK ORDER OF ITEMS (5-DIGIT SITC)												
3323	Distillate fuels .....	(1)	878,881	12.3	-----	(1)	684,232	10.2	-----	406,853	9.0	-----
33101	Crude petroleum .....	(2)	585,736	8.2	-----	(4)	411,327	6.1	-----	334,024	7.4	-----
3324	Residual fuel oils .....	(3)	510,675	7.2	-----	(6)	374,318	5.6	-----	124,164	2.7	-----
6672	Diamonds, nonindustrial, unset .....	(4)	481,512	6.8	-----	(3)	460,023	6.8	-----	474,517	10.5	-----
3214	Coal (anthracite, bituminous) .....	(5)	438,200	6.1	40.6	(9)	291,141	4.3	33.0	161,180	3.6	33.1
24221	Sawlogs and veneer logs (conifer) .....	(6)	392,224	5.5	-----	(2)	487,466	7.2	-----	396,800	8.8	-----
3321	Motor spirit (gasoline) .....	(7)	364,461	5.1	-----	(10)	263,138	3.9	-----	90,926	2.0	-----
2631	Raw cotton, other than linters .....	(8)	339,992	4.8	-----	(8)	325,714	4.8	-----	212,596	4.7	-----
24321	Lumber, sawn lengthwise (conifer) .....	(9)	314,255	4.4	-----	(5)	408,898	6.1	-----	307,630	6.8	-----
68121	Platinum, unwrought, partly worked .....	(10)	200,940	2.8	63.2	(7)	371,412	5.5	60.5	294,681	6.5	62.0
2713	Natural phosphates .....	(11)	158,204	2.2	-----	(13)	134,696	2.0	-----	46,946	1.0	-----
3411	Gas, natural .....	(12)	142,477	2.0	-----	(21)	58,705	.9	-----	28,396	.6	-----
4216	Sunflower seed oil .....	(13)	116,747	1.6	-----	(12)	144,792	2.1	-----	48,281	1.1	-----
28391	Ores and chromium concentrates .....	(14)	97,043	1.4	-----	(24)	36,937	.5	-----	33,834	.7	-----
2813	Iron ore and concentrates .....	(15)	83,822	1.2	71.6	(17)	72,449	1.1	67.1	57,170	1.3	66.6
5613	Chemical potassic fertilizer .....	(16)	77,398	1.1	-----	(22)	58,627	.9	-----	34,319	.8	-----
7321	Passenger motor vehicles .....	(17)	76,239	1.1	-----	(29)	32,770	.5	-----	27,445	.6	-----

See footnotes at end of table.

2421	Pulpwood (including broadleaved).....	(18)	75,019	1.1	-----	(14)	109,931	1.6	-----	62,407	1.4	-----
6841	Aluminum, alloys, unwrought.....	(19)	63,990	.9	-----	(18)	68,562	1.0	-----	46,741	1.0	-----
5151	Radioactive elements.....	(20)	60,717	.9	76.5	(31)	31,821	.5	71.6	6,293	.1	70.5
68212	Copper, refined.....	(21)	56,066	.8	-----	(11)	189,391	2.8	-----	130,501	2.9	-----
2120	Fur skins, undressed.....	(22)	55,971	.8	-----	(20)	61,605	.9	-----	55,992	1.2	-----
2820	Iron and steel scrap.....	(23)	54,320	.8	-----	(16)	95,475	1.4	-----	80,153	1.8	-----
6831	Nickel, alloys, unwrought.....	(24)	52,287	.7	-----	(15)	105,998	1.6	-----	61,477	1.4	-----
33291	Nonlubricating oils.....	(25)	49,941	.7	80.3	(19)	64,220	1.0	79.3	21,447	.5	78.3
2764	Asbestos, crude, washed, or ground.....	(26)	49,917	.7	-----	(32)	30,921	.5	-----	23,713	.5	-----
33102	Petroleum, partly refined.....	(27)	39,470	.6	-----	(26)	35,848	.5	-----	19,201	.4	-----
6895	Base metals, n.e.s. 1.....	(28)	38,741	.5	-----	(25)	36,269	.5	-----	20,214	.4	-----
7353	Ships and boats, not warships.....	(29)	36,346	.5	-----	(50)	11,214	.2	-----	39,579	.9	-----
7151	Machine tools for metal.....	(30)	32,436	.5	83.1	(34)	24,382	.4	81.4	20,132	.4	81.0
51212	Other hydrocarbons.....	(31)	31,731	.4	-----	(23)	44,209	.7	-----	12,246	.3	-----
6712	Pig iron, including cast iron.....	(32)	31,183	.4	-----	(30)	32,334	.5	-----	49,767	1.1	-----
6715	Other ferro-alloys.....	(33)	30,452	.4	-----	(38)	16,440	.2	-----	7,626	.2	-----
3322	Lamp oil and white spirit.....	(34)	24,724	.3	-----	(28)	32,971	.5	-----	15,405	.3	-----
03202	Crustacea and mollusks.....	(35)	23,970	.3	85.1	(39)	16,062	.2	83.5	15,355	.3	83.1
63121	Plywood and veneered panels.....	(36)	22,869	.3	-----	(27)	35,540	.5	-----	29,830	.7	-----
6575	Carpets.....	(37)	18,274	.3	-----	(43)	14,852	.2	-----	15,236	.3	-----
03201	Prepared or preserved fish (including caviar).....	(38)	17,544	.2	-----	(41)	15,640	.2	-----	18,330	.4	-----
0311	Fish, fresh, frozen, chilled.....	(39)	17,496	.2	-----	(33)	24,454	.4	-----	10,601	.2	-----
7125	Tractors.....	(40)	16,902	.2	86.4	(56)	8,909	.1	84.9	6,952	.1	84.9
01189	Meat and edible offals.....	(41)	15,361	.2	-----	(46)	12,334	.2	-----	9,419	.2	-----
6130	Fur skins, tanned or dressed.....	(42)	14,757	.2	-----	(44)	14,034	.2	-----	9,995	.2	-----
0015	Horses, asses, mules and hinnies.....	(43)	14,156	.2	-----	(49)	11,519	.2	-----	9,487	.2	-----
3218	Coke and semi-coke of coal, lignite.....	(44)	11,343	.2	-----	(37)	16,905	.3	-----	14,392	.3	-----
2742	Iron pyrites, unroasted.....	(45)	11,203	.2	87.3	(47)	12,287	.2	85.9	10,517	.2	86.1
51285	Heterocyclic compounds.....	(46)	9,724	.1	-----	(48)	12,283	.2	-----	4,570	.1	-----
6413	Kraft paper and kraft paperboard.....	(47)	9,663	.1	-----	(40)	15,741	.2	-----	9,116	.2	-----
68210	Copper and alloys, unwrought.....	(48)	9,558	.1	-----	(35)	21,970	.3	-----	6,199	.1	-----
68931	Magnesium, unwrought.....	(49)	9,248	.1	-----	(42)	15,454	.2	-----	8,768	.2	-----
63183	Hoopwood, chipwood, split poles.....	(50)	8,890	.1	88.0	(76)	5,496	.1	87.0	1,594	.0	86.8
Top 50 total.....			6,273,075	88.0	-----		5,861,716	87.0	-----	3,933,017	86.8	-----
Total exports to Industrialized Western countries.....			7,131,446	-----	-----		6,738,515	-----	-----	4,532,594	-----	-----

1 Not elsewhere specified.

2 Small amount, rounded to zero.

Table 4 shows the division of each of the top 25 Soviet hard currency exports among the 15 I.W. importing countries. It also provides the shares of total Soviet exports to the I.W. absorbed by each country and the relative shares provided by each to Soviet imports from the I.W.

TABLE 4.—U.S.S.R.: DOLLAR VALUE OF TOP 25 1975 EXPORTS TO THE INDUSTRIALIZED WEST AND PERCENT SHARE TAKEN BY EACH WESTERN COUNTRY

SITC	Export item	1975 rank	Dollar value (thousands)	Percent shares taken by Industrialized Western countries													
				Canada	United States	Japan	Belgium/Luxembourg	France	Federal Republic of Germany	Italy	Netherlands	Austria	Norway	Sweden	Switzerland	United Kingdom	Denmark
3323	Distillate fuels	1	878,881		2.5		4.5	9.4	36.5	7.0	9.6	0.1	0.7	13.4	6.7	3.2	6.3
33101	Crude petroleum	2	585,736			0.6	.3	16.7	48.6			16.0	.6			10.4	6.8
3324	Residual fuel oil	3	510,675		10.5	11.1	1.3	8.1	2.5	18.9	1.8	.1	.7	41.0	.5	.3	3.3
6672	Diamonds, nonindustrial, unset	4	481,512		2.7	1.6	13.2	.1	3.1					.1	.1	79.1	
3214	Coal (anthracite, bituminous)	5	438,200			37.4	2.3	22.0	1.0	16.6	( <sup>1</sup> )	10.6		6.6		( <sup>1</sup> )	3.4
24221	Sawlogs and veneer logs	6	392,224			99.2		.1	.2	( <sup>1</sup> )	.2			.2			
3321	Motor spirit (gasoline)	7	364,461				10.8	4.3	8.0	20.3	31.8	1.9	2.9	2.7	5.5	11.5	.2
2631	Raw cotton	8	339,992			50.3	1.1	24.3	8.2	5.6	.4	1.6		.2	.3	7.8	
24321	Lumber, sawn lengthwise	9	314,255			2.3	10.2	6.8	16.4	10.8	6.2		( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	45.9	1.3
68121	Platinum	10	200,940		29.9	58.0		2.5	6.7	.2	.1			( <sup>1</sup> )	( <sup>1</sup> )	1.2	1.4
2713	Natural phosphates	11	158,204				7.9	( <sup>1</sup> )	41.0		1.9	9.9	14.3	19.8			5.1
3411	Gas, natural	12	142,477				.1	11.5		31.6		56.7					.1
4216	Sunflower seed oil	13	116,747	( <sup>1</sup> )	( <sup>1</sup> )		.1	46.8	38.0		5.3	.5		.1	8.5	.1	.6
28391	Ores and chromium	14	97,043		25.2	14.5		13.8	19.2	2.8			1.7	22.9			
2813	Iron ore and concentrates	15	83,822		3.0	26.0		8	3.3	28.4		14.1	.2			23.9	
5613	Chemical potassic fertilizer	16	77,398		1.5	37.1		14.6	5.5	6.6	3.6		3.2	9.8		15.8	2.3
7321	Passenger motor vehicles	17	76,239				18.0	9.4	25.3	.2	11.5	3.1	4.2	4.3	4.4	12.3	7.3
2421	Pulpwood	18	75,019			24.5	4.2	19.0	.1	25.1	6.8	( <sup>1</sup> )	1.2	18.7		.3	
6841	Aluminum, alloys	19	63,990		.1	44.9	2.8	14.5	5.7	2.1	.1	.7	8.4	1.8		19.0	
5151	Radioactive elements	20	60,717	7.4			( <sup>1</sup> )	63.6	28.9								
68212	Copper, refined	21	56,066			4.5		25.6	41.4	4.3	10.5	.1		11.3	.4	2.0	
2120	Fur skins, undressed	22	55,971	1.8	6.3	4.9	.7	5.4	32.3	3.2	.4	.9	.1	2.5		41.4	( <sup>1</sup> )
2820	Iron and steel scrap	23	54,320			22.8		1.6	52.0					23.6	( <sup>1</sup> )		
6831	Nickel alloys, unwrought	24	52,287		28.7	17.3		16.6	22.7	2.5	1.4			8.6	2.1		
33291	Nonlubricating oils	25	49,941						97.5					8.6	2.5		
	Total exports to Industrialized Western countries		7,131,446	.4	3.6	16.4	4.2	10.8	18.2	12.3	4.3	4.5	1.2	7.4	1.7	12.7	2.4
	Total imports from Industrialized Western countries		10,714,789	3.8	17.1	15.2	3.3	10.7	26.4	9.5	1.9	2.0	.9	2.7	1.7	4.3	.6

<sup>1</sup> Small amount, rounding to zero.

In terms of total trade, the Federal Republic of Germany was the U.S.S.R.'s best customer, absorbing the greatest percentage of U.S.S.R. exports to I.W. and supplying the greatest portion of Soviet imports from the I.W. Japan was the second largest trading partner for Soviet exports but was eclipsed by the United States as the second ranking supplier of Soviet imports from I.W., thereby placing Japan in third rank. United States-Soviet trade exhibited the widest spread between exports and imports, in that the United States took a mere four percent of all 1975 Soviet deliveries to the I.W., but provided 17% of Soviet imports from the Industrialized West (largely accounted for by grain shipments).

Table 4 also reveals some interesting individual item trade relationships. For example, the U.K. took a major portion (79%) of Soviet non-industrial diamond exports (SITC 6672) and large quantities (46%) of lumber, sawn lengthwise (SITC 24321). The United States purchased nearly 30% of Soviet platinum (SITC 68121) exports to the I.W., and 25% of chromium ore (SITC 6831). Japan imported 99% of Soviet exports of sawlogs and veneer logs (SITC 24221) to the Industrialized West and large shares of Soviet platinum, chrome, and aluminum alloys exports. In cases where a large portion of an individual commodity was absorbed by a single country, economic conditions in that country had a greater effect on Soviet exports of that commodity than they would have had if the items were marketed among several countries.

Additionally, Table 4 provides some insights regarding the breadth of individual country trading relationships with the U.S.S.R. For example, the FRG imported measureable shares of 23 of the top 25 Soviet exports, while the United States imported only 10 of these items, fewer than any other I.W. country except Canada.

Analysis of the data in the three tables leads us to several conclusions:

The recent strong growth in dollar value of Soviet exports (57% increase from 1973 to 1975) apparent from the data provided can be deceiving. In large measure it reflects very large increases in the prices of petroleum products, coal, and lumber, rather than increased penetration of Western markets. For example, increased petroleum and coal exports together provided more than half of the 1974 Soviet gain in total exports to the I.W. Furthermore, crude petroleum tonnage shipments to the West actually declined from 1973 to 1974, but dollar value of exports nevertheless nearly doubled. Similarly, strong 1974 price increases for coal, lumber, cotton, platinum, copper and aluminum spurred earnings. Subsequently, as a result of world market conditions, prices for some of these items, e.g. lumber and copper, declined from 1974 highs, contributing to reduced Soviet earnings growth in 1975. While future world market prices of coal and petroleum products may still go higher, and while recovery of prices of some commodities depressed in 1975 will assist earnings growth, a repeat of the windfalls enjoyed from 1973 to 1975 seems improbable. Thus, future Soviet gains in the value of hard currency exports are likely to be much more dependent on increasing export quantities than they were, for example, in 1974.

Overall, near term (through 1980) levels of Soviet hard currency earnings seem much more dependent on world market prices for oil, gas and some other basic raw materials (logs, lumber, platinum, cotton, coal, copper) and on a capability to expand volume exports of these items, than on finished manufactured goods capabilities that might be brought on stream. This is particularly true for energy exports (petroleum, gas, coal).

The prices of primary products, raw and semi-processed materials, and the quantities demanded are, of course, closely correlated with the state of Western economies. As a result, Soviet exports fluctuate with production fluctuations in the importing I.W. countries.

On the other hand, there are probably important advantages inherent in exporting raw and semi-processed material, since these tend to be less labor intensive, and are thus less likely to face Western import barriers than are finished goods manufactures.

Primary products and raw and semi-processed materials items are likely to dominate Soviet exports for many years to come. Given the problems of quality, style, servicing, etc., inherent in penetrating new markets, expansion of finished manufactured goods exports from the current very low levels to the point where they are major export earners would take a good number of years. Perhaps in recognition of this, there are indications that Soviet emphasis on expanding raw and semi-processed material exports has been renewed, with attention, but less emphasis, on broadening machinery and equipment exports.

## 2. PRODUCT DIVISION ANALYSIS

### *a. Energy*

How much can the Soviets expand the export volume of energy products? Exports of energy (including those to CMEA countries) are roughly 14% of total energy production and are planned to increase about 4.7% per year during the 1976-80 period. This growth rate is considerably lower than the 7.3% achieved during the previous plan period and probably reflects the constraints of the shift to development of Siberian deposits, as well as the inadequacy of Soviet technology. Of total energy exports, roughly one-third is imported by hard currency countries; the bulk of Soviet deliveries has gone to communist countries. According to published Soviet commitments, this pattern will continue.

Although natural gas exports are expected to assume greater near term importance, petroleum and petroleum products will still comprise about two-thirds of energy exports. Growth in coal sales, which account for a relatively small share of energy exports, should continue at about the same rate as in the previous plan period.

Thus, although analysts' views may differ, it appears that the volume of total energy exports will exhibit relatively slow growth rates during the next five years, effecting proportionately small increases in hard currency earnings. This can be expected because of the anticipated slow growth (possibly even a decline) in petroleum exports, which will not be compensated for by accelerated growth in natural

gas shipments. Therefore, substantial earnings increases from energy, if realized, will probably be more a function of rises in world market prices than of greater volume sales.

*b. Nonfuel raw materials*

Wood and wood products (SITC 24) exports were the second largest product division exported to the Industrialized West during the years 1972-75. Representing 11% of total 1975 Soviet shipments, these items earned the U.S.S.R. about \$1 billion in hard currency in 1974 and \$800 million in 1975, even though volume sales declined in both years. Gains in dollar value earnings in 1974 were the result of drastically escalating world market prices, but price levels were insufficient to offset the 1975 volume decline.

Prospects for 1976-80 increases in exports of wood commodities are dependent upon both world market prices and the successful development of Siberian timberland. As world economies recover, the demand for and prices of wood products should improve. Some increases in export capability should be forthcoming from Siberian resource development. One estimate<sup>10</sup> predicts that development of the East Siberian forest areas could increase wood products exports by as much as 15% per year for the next decade. The extent to which potential increases are realized, not only in production but in export sales, will in part be affected by Soviet success in negotiating compensation arrangements with the West. The most significant of these may originate out of negotiations with Japan, which had already invested in Siberia's timberland development as early as 1970. Although the 1970 agreement did not involve product payback, subsequent arrangements are likely to do so, as the Soviets attempt to make Siberian development projects self-liquidating. One agreement already signed, which calls for export of Soviet timber products in return for Japanese forestry handling equipment, will contribute about \$1 billion to hard currency earnings between 1976-80.

On balance, the 1976-80 planned average annual growth rate for production in the forest products industry is about four percent, not significantly different from that achieved in the previous plan period. Sustained production increases, improved prospects for Western economic recovery that would enlarge demand and increase prices, and potential gains from compensation arrangements, should serve to maintain the relative importance of wood and related products exports in the current plan period. Given these factors, it is possible that 1980 hard currency wood products earnings could approach \$2 billion.

Exports of textile fibers (SITC 26), consisting primarily of raw cotton, added \$360 million to 1975 hard currency earnings from sales to the Industrialized West, about five percent of the total. Sales of cotton can be expected to continue through the remainder of the decade. It is unlikely, however, that cotton exports can contribute much more to foreign exchange earnings than in recent years.

<sup>10</sup> Smith, Alan, "Soviet Dependence on Siberian Resource Development", *Soviet Economy in a New Perspective*, Joint Economic Committee Publication, 1976, p. 494.

Nonmetallic mineral manufactures (SITC 66), primarily diamonds, in 1975 accounted for almost a half billion dollars in hard currency earnings, with Great Britain being the major importer. Due to expected price increases for the remainder of the decade, the prospects for continued hard currency earnings from diamond shipments are good, in spite of difficulties in mining Siberian areas.

Non-ferrous metals (SITC 68) exports (platinum group, copper, aluminum, nickel) of \$440 million represented six percent of total U.S.S.R. sales to I.W. countries in 1975. Nonferrous metals have exhibited substantial instability as hard currency earning commodities. In 1975, recession in Western economies severely curtailed demand for these items. Prices fell sharply, reducing earnings from the 1974 peak of \$800 million to about \$400 million. The 1975 decline in value was due in part to a drastic drop in platinum prices and was also particularly aggravated by disproportionately large declines in copper prices. It is noteworthy that the U.S.S.R. is the world's biggest producer of many minerals and metals. Although the Soviets are very secretive regarding these commodities, there is little doubt that their supplies are substantial. On the production side, however, it appears that the nonferrous metals industry has run into some difficulties. One indication is the planned slowdown in production growth in the current five year period. The entire nonferrous industry is slated for an annual average growth rate of 4.6%, slightly below the previous plan's rate of 5.0%. Planned growth in aluminum output is to be between 20-30% during the 1976-80 period, a target significantly lower than the 50-60% of the previous plan. Increases in copper and nickel production are also to be between 20-30%, again down from the 1971-75 growth rates of 35-40%. Elsewhere, the plan calls for improved mining methods among extracting industries. As is the case with energy products and other raw materials, indications are that production increases, particularly for export, will have to come from development of Siberian resources. Here again, as accessible areas are depleted, costs for developing new areas may become enormous. Lagging technology also serves to compound the logistic problem. Imported Western technology and expertise appear to be a solution, but escalating debt and the concomitant need to restrain imports diminishes the feasibility of this alternative. In an attempt to circumvent these difficulties, the U.S.S.R. has increasingly sought technology through countertrade arrangements. As an example, in 1976, an agreement was signed between France and the U.S.S.R., whereby a French company is to export an aluminum refinery plant in return for aluminum. Exports from this deal are scheduled to come on stream in 1979. Additionally, to develop the vast Udokan reserves, which reportedly can sustain copper exports for the next 50 years, the Soviets are seeking U.S. and British cooperation. Negotiations have not yet been finalized. Even in the unlikely event that an agreement could be reached in the very near term, output from this area could not be expected before 1982, since the copper industry operates under at least a 5-6 year lag between development and output. Besides Udokan, the Norilsk area in East Siberia also holds promise for substantial increases in production of nonferrous metals. Most platinum already comes from this area and there is a strong potential for increased copper and nickel output. Developing the Norilsk nickel reserves

could make the U.S.S.R. the world's major exporter of this commodity. To tap the rich copper deposits, the Soviets already have concluded an arrangement with Finland for a copper smelter. Neither output nor exports, however, can be expected in the 1970's.

To summarize expectations for the current plan period, world prices for nonferrous metals will be a very important factor in determining the level of foreign exchange earnings. Demand should begin to recover as Western economies improve. However, substantial gains in the volume of nonferrous metals exported to the West in the next few years are not likely, and additional exports arising out of countertrade agreements geared toward Siberian development will not significantly affect volume until the 1980's.

### *c. Manufactured goods*

Soviet leadership has from time to time made ambitious calls for increased manufactured goods exports to the West. These exhortations have been undoubtedly motivated mainly by economic advantages perceived to result from the larger "value added" in manufactured goods as compared to raw materials, but probably also by perceptions of a greater "status" being involved in export of manufactures. Additionally, raw materials tend to be more vulnerable to world market price swings. Furthermore, not only are natural resources depleted by raw material exports, but in the case of the U.S.S.R. they are increasingly costly to develop.

The two digit product divisions representing virtually all manufactured goods exports by the Soviet Union to the Industrialized West for the four year period, 1972-1975, are provided in Table 5.

TABLE 5.—U.S.S.R.: MAJOR EXPORTS OF MANUFACTURED GOODS TO INDUSTRIALIZED WESTERN COUNTRIES, 1972-75, RANKED BY 1975 VALUE<sup>1</sup>

[In millions of U.S. dollars]

SITC	Commodity group	1972	1973	1974	1975	
					Amount	Percent of total
73	Transport equipment.....	39	78	57	125	2
71	Machinery, nonelectric.....	32	45	55	78	1
72	Electric machinery.....	10	14	22	26	.....
89	Miscellaneous manufactures.....	12	18	23	25	.....
86	Professional scientific and controlling instruments.....	12	17	21	23	.....
	Subtotal.....	105	172	178	277	.....
	Total manufactured exports to industrialized Western countries.....	106	174	180	280	.....
	Total exports to industrialized Western countries.....	2,845	4,533	6,739	7,131	.....
	Manufactured goods as percent of total exports.....	3.7	3.8	2.7	3.9	.....

<sup>1</sup> Commodities classified in SITCs 7 and 8.

The record of Soviet sales of manufactured goods to the West has been weak. Despite an increase of 2½ times in value terms between 1972 and 1975, manufactured goods have consistently comprised less than 4% of Soviet exports to the I.W.

Transport equipment represents the top two-digit level manufactured product group exported by the U.S.S.R. Within this category,

passenger motor vehicles and ships/boats are items whose exports more than tripled in value over the four year period, 1972-1975. This indicates that the Soviets have had some success in increasing sales of transport equipment, but these items nevertheless remain a relatively minor two percent of total exports to the I.W.

Soviet auto production and exports provide an interesting item for analysis. Between 1970 and 1975 Soviet car production increased 250%. This rapid rise is attributable to output from the Togliatti plant, completed in 1970 and built with plant and equipment imported from Fiat of Italy. A large part of export sales have been to COMECON countries, but the West has also become a target for expansion, and autos were the 17th ranking item among exports to the I.W. by 1975. Exports have consisted principally of the Lada (trade name of the Soviet Fiat designated for foreign consumption), which in 1975 found a Western market for 64,000 cars. Primary Western importers were: West Germany (9700), Belgium (9400), Great Britain (6300) and Holland (6300). The Soviets have recently been particularly aggressive in their sales to Great Britain, where the Satra Corporation, through its network of dealerships, expects to sell 12,000 cars in 1977.

Attention is also turning to the United States market. Here again, the Satra Corporation will handle transportation, processing, and distribution. To this end, construction of a \$2.1 million "pre-delivery center and spare parts depot" in Savannah, Georgia was slated to begin in the spring of 1977. Soviet shipments of the Lada should begin in early 1978 at the rate of 10,000 cars annually. Optimistic goals call for an increase to 25,000 within a few years. Future Lada sales to the West in significant volumes depend, however, on several factors. Lack of a time-tested favorable reputation of Soviet manufactured goods will most likely be a basic problem.<sup>11</sup> It seems unlikely that Lada sales in the United States will be large, not only because of lack of an established reputation, but also because the American consumer has such a wide variety of time-tested cars from which to choose. As has been the case in other Western markets, low pricing rather than quality may be the best selling point. However, low prices can raise the spectre of anti-dumping actions.

The other noteworthy category of manufactured exports is non-electric machinery (SITC 71), which, though comprising only one percent of total U.S.S.R. exports to the I.W., has also risen considerably since 1972. Metalworking machine tool sales and tractor shipments have carried most of this group.

The U.S.S.R. has been particularly ambitious in developing sales of tractors, the 40th ranking 1975 export to the I.W. Rapid growth rates were achieved in 1973, 1974, and 1975, with similar expectations for 1976. Sales were primarily to the United States, Canada, and Great Britain. To attract Western buyers the Soviets made minor design modifications and set up servicing and spare parts facilities. More importantly, lower pricing gave them a competitive advantage over Western counterparts. Whether sales growth will continue at as rapid a pace as it has in the past few years depends in large measure on the performance of the tractors already sold.

The car and tractor export drive illustrates the aggressiveness and flexibility with which the Soviets can approach market penetration in

<sup>11</sup> Notably, recent publicity campaigns promoted by Satra in Great Britain adroitly avoided mentioning that the Lada was a Soviet product.

the West. Their attempts have met with some success, as evidenced by the 1972-1975 increases. On balance, however, although the above cited isolated cases may be impressive, they cannot be used as indications of an overall Soviet capability to satisfy I.W. manufactured goods' import needs. The overall near term potential of Soviet manufactures exports still remains weak. Factors limiting really significant growth include their lack of diversification and traditionally negative Western attitudes toward Soviet manufactured goods. Overcoming these difficulties will require not only time, but continued investment and infusions of Western equipment and technology.

It thus seems that, in the near term, developing traditional energy and semi-processed exports, rather than manufactured goods will yield the greatest returns on investment. Given existing constraints, a 1980 upper limit of 5-6% of total exports may be as much as can be expected from the manufactured goods sector.

### 3. THE ROLE OF COUNTERTRADE IN SOVIET EXPORTS THROUGH 1980

About 10% of Soviet hard currency earnings in the 1976-80 period are reputed to be forthcoming from exports originating out of countertrade agreements. The U.S.S.R. has relied heavily on these agreements in an effort to provide assurance of a market for the exports required to pay for imported equipment and technology.

Countertrade agreements abound in industries relying heavily on Siberian development for future production expansion (natural gas, oil, timber, coal). In fact, a considerable volume of future export increases (particularly of natural gas) will be based upon product payback originating from these agreements.<sup>12</sup>

One industry which has not in the past figured prominently in Soviet exports to the Industrialized West is the chemical industry (SITC 5); its sales accounted for just under four percent of foreign exchange earnings from the I.W. in 1975. However, as a result of a substantial number of countertrade arrangements signed between the Soviets and France, West Germany, Italy and the United States in the early 1970's, marked increases in chemical exports (particularly polyethylene and ammonia) will come on stream beginning in 1978.

Although countertrade involves various difficulties, including pricing the flow of return product over extended (5 to 20 years) periods, and sometimes a reluctance of Western firms to tie themselves to Soviet supply, it will contribute a growing amount to Soviet hard currency earnings in future years.

### 4. SUMMARY

The strong growth in Soviet hard currency earnings from I.W. countries between 1972 and 1975 can be deceiving if used to predict future levels of Soviet export growth to the developed West. In large measure the performance between 1972 and 1975 reflected very large increases in the prices of petroleum products, coal, lumber, and nonferrous metals, rather than expanded volume deliveries or increased penetration of Western markets. While future world market prices of these products may go still higher, and while recovery of

<sup>12</sup> For a more complete treatment of countertrade, see Matheson, et al., "Countertrade Practices in Eastern Europe", in this volume.

prices of some commodities depressed at mid-decade will assist earnings growth, a repeat of the windfalls enjoyed from 1973 to 1975 seems improbable. Thus, future Soviet gains in the value of hard currency exports are likely to be much more dependent on increasing export quantities than they were, for example, in 1974.

Accounting for 48% of the dollar value of shipments to the I.W. in 1975, energy products exports will be a key to future earnings growth. It appears that the volume of total energy exports will exhibit relatively slow growth rates during the current plan period, effecting proportionately small increases in hard currency earnings. This conclusion can be attributed both to increasing domestic and East European energy needs and to the technical difficulties bearing upon developing Siberian reserves, which appear to be the primary source of future hydrocarbon energy supplies. The only energy product likely to show noteworthy export growth is natural gas, whose deliveries, arising out of compensation arrangements, should begin to come on stream in the latter part of this decade.

Although the Soviets have in the past attempted to increasingly penetrate the Western market with sales of manufactured goods, they have been relatively unsuccessful in that manufactures have comprised only about 4 percent of total Soviet deliveries to the I.W. Given the problems of quality, style, servicing, etc., inherent in penetrating new markets, expansion of finished manufactured goods exports from the current very low levels to the point where they are major export earners would probably take many years. Perhaps in recognition of this, there are indications of a renewed emphasis on expanding raw and semi-processed materials exports, e.g., wood and wood products, platinum, copper, diamonds, with a somewhat lesser call for broadening machinery and equipment deliveries.

## *B. Poland*

### 1. DATA HIGHLIGHTS

Table 6 displays, at the one-digit SITC level of detail, 1972-75 Polish exports to the 15 I.W. We note the following:

Total exports to the I.W. doubled from nearly \$1.4 billion in 1972 to nearly \$2.8 billion in 1975.

The 61% portion of total exports provided by primary products in 1975 was virtually unchanged from 1972.

Composition at the one-digit level remained essentially unchanged, except for a decline in the relative portion of food and live animal exports (SITC 1). This was almost exactly offset by an increased importance of mineral fuels (SITC 3), principally due to increased coal prices. Also of note is the expansion of finished goods manufactures (SITC 7 and 8) from 16.8% total in 1972 to 20.8% in 1975.

TABLE 6.—POLAND: EXPORTS TO INDUSTRIALIZED WESTERN COUNTRIES, 1972-75

[Amounts rounded to millions of U.S. dollars]

SITC	Description	1972		1973		1974		1975	
		Amount	Per-cent	Amount	Per-cent	Amount	Per-cent	Amount	Per-cent
0	Food and live animals.....	\$404	29.6	\$559	29.3	\$408	16.4	\$464	16.8
1	Beverages and tobacco.....	9	.7	14	.7	12	.5	16	.6
2	Crude materials, inedible, except fuels.....	144	10.6	223	11.7	278	11.2	266	9.6
3	Mineral fuels, lubricants and related materials.....	268	19.7	324	17.0	673	27.0	933	33.8
4	Animal and vegetable oils and fats.....	5	.3	5	.3	9	.3	10	.4
5	Chemicals.....	62	4.5	91	4.7	129	5.2	106	3.8
6	Manufactured goods classified chiefly by material.....	232	17.0	325	17.1	450	18.1	368	13.3
7	Machinery and transport equipment.....	108	7.9	176	9.2	194	7.8	306	11.1
8	Miscellaneous manufactured articles.....	121	8.9	172	9.0	223	9.0	269	9.7
9	Commodities not elsewhere classified.....	10	.7	19	1.0	116	4.7	23	.8
	Total.....	1,363	100.0	1,907	100.0	2,491	100.0	2,761	100.0
0-4	Primary products.....	830	60.9	1,125	59.0	1,379	55.4	1,689	61.2
5-6	Intermediate goods.....	294	21.6	416	21.8	579	23.2	473	17.1
7-8	Manufactured goods.....	229	16.8	348	18.2	417	16.7	575	20.8

Examining Poland's top 15 export divisions and top 50 items (see Table 7) we find:

Like the U.S.S.R., Polish export capabilities have been concentrated in a relatively few items. The top five provided 44% of 1975 exports to the I.W., the top 25 items, 67%.

Coal (SITC 32) was overwhelmingly the largest hard currency product division, accounting for 30.7% of total exports in 1975.

Other important product divisions included: Meat (SITC 01), of which five items in the top 50 constituted 9.0% of total exports; nonelectric machinery (SITC 71), four items comprising 3.4% of total; clothing (SITC 84), five items making up 4.2%; and nonferrous metals (SITC 68)—principally copper, silver, and zinc—earning 4.7% of total hard currency in 1975.

Poland's top 50 items included 15 finished manufactures (SITC 7 and 8) versus only four in the Soviet Union's top 50. Included among Polish manufactures were several items that are potentially import sensitive in the I.W., e.g., six clothing and footwear items.

Ships and boats (SITC 7353) was the third ranking export item, based mainly on sales of large ships. However, 1975 export earnings were essentially unchanged compared to 1973.

Sulfur (SITC 2741), the fourth ranking item, more than doubled earnings from 1973 to 1975, and it appears that the increase was totally based on price rather than volume.

Exports of live horses (SITC 0015), in ninth rank, provided an unusual but growing revenue source.

TABLE 7.—POLAND: LEADING 1975 EXPORTS TO INDUSTRIALIZED WESTERN COUNTRIES

[Values in thousands of U.S. dollars]

SITC	Commodity	1975 rank	1975 value	Percent of total	Cumulative percent	1974 rank	1974 value	Percent of total	Cumulative percent	1973 value	Percent of total	Cumulative percent	
<b>1975 RANK ORDER OF PRODUCT DIVISIONS (2-DIGIT SITC)</b>													
32	Coal, coke, briquettes	(1)	847,085	30.7	-----	(1)	608,834	24.4	-----	300,517	15.8	-----	
01	Meat and meat preparations	(2)	266,258	9.6	-----	(2)	242,561	9.7	-----	281,212	14.7	-----	
71	Machinery, other than electric	(3)	144,627	5.2	-----	(8)	84,501	3.4	-----	47,974	2.5	-----	
84	Clothing	(4)	133,763	4.8	-----	(5)	113,572	4.6	-----	86,613	4.5	-----	
68	Nonferrous metals	(5)	130,606	4.7	55.1	(3)	148,791	6.0	48.1	107,793	5.7	43.2	
73	Transport equipment	(6)	118,948	4.3	-----	(9)	74,323	3.0	-----	101,873	5.3	-----	
24	Wood, lumber, and cork	(7)	94,587	3.4	-----	(7)	100,035	4.0	-----	92,412	4.8	-----	
27	Crude fertilizers and crude minerals	(8)	84,645	3.1	-----	(10)	69,946	2.8	-----	43,253	2.3	-----	
33	Petroleum and petroleum products	(9)	83,820	3.0	-----	(14)	61,678	2.5	-----	23,365	1.2	-----	
67	Iron and steel	(10)	75,606	2.7	71.7	(4)	126,555	5.1	65.5	81,974	4.3	61.2	
05	Fruit and vegetables	(11)	68,443	2.5	-----	(13)	64,522	2.6	-----	62,509	3.3	-----	
00	Live animals	(12)	67,930	2.5	-----	(6)	106,640	4.3	-----	156,110	8.2	-----	
65	Textile yarn	(13)	58,420	2.1	-----	(12)	65,838	2.6	-----	54,505	2.9	-----	
51	Chemical elements and compounds	(14)	57,293	2.1	-----	(11)	69,488	2.8	-----	40,315	2.1	-----	
69	Manufactures of metal, n.e.s. <sup>1</sup>	(15)	49,070	1.8	82.6	(15)	55,615	2.2	80.0	35,396	1.9	79.5	
Top 15 total			2,281,101	82.6	-----	1,992,899			80.0	-----	1,515,821	79.5	-----
Total exports to Industrialized Western countries			2,760,655	-----	-----	2,490,824			-----	-----	1,907,384	-----	-----
<b>1975 RANK ORDER OF ITEMS (5-DIGIT SITC)</b>													
3214	Coal (anthracite, bituminous)	(1)	819,434	29.7	-----	(1)	589,490	23.7	-----	291,343	15.3	-----	
0138	Prepared or preserved meat	(2)	154,227	5.6	-----	(2)	123,552	5.0	-----	123,528	6.5	-----	
7353	Ships and boats, other than warships	(3)	82,465	3.0	-----	(7)	52,905	2.1	-----	81,311	4.3	-----	
2741	Sulfur	(4)	76,829	2.8	-----	(6)	60,400	2.4	-----	36,020	1.9	-----	
68212	Copper, refined	(5)	71,957	2.6	43.6	(3)	90,187	3.6	36.8	56,153	2.9	30.8	
3324	Residual fuel oils	(6)	61,988	2.2	-----	(8)	49,030	2.0	-----	15,163	.8	-----	
24321	Lumber, sawn lengthwise, conifer	(7)	55,130	2.0	-----	(4)	65,728	2.6	-----	68,271	3.6	-----	
84112	Women's outer wear knit	(8)	50,697	1.8	-----	(9)	41,733	1.7	-----	30,703	1.6	-----	
0015	Horses, asses, mules and hinnies	(9)	49,743	1.8	-----	(10)	37,603	1.5	-----	29,436	1.5	-----	
7115	Internal combustion engines	(10)	46,322	1.7	53.2	(44)	9,671	.4	45.0	1,083	.1	38.4	
0121	Bacon, ham and other pig meat	(11)	36,252	1.3	-----	(11)	33,638	1.4	-----	48,367	2.5	-----	
84111	Men's and boys' outer garments	(12)	34,074	1.2	-----	(18)	24,431	1.0	-----	21,936	1.2	-----	
85102	Footwear, leather	(13)	33,514	1.2	-----	(21)	22,438	.9	-----	19,550	1.0	-----	
68111	Silver, unwrought, worked	(14)	29,573	1.1	-----	(26)	16,476	.7	-----	19,075	1.0	-----	

See footnotes at end of table.

TABLE 7.—POLAND: LEADING 1975 EXPORTS TO INDUSTRIALIZED WESTERN COUNTRIES—Continued

[Values in thousands of U.S. dollars]

SITC	Commodity	1975 rank	1975 value	Percent of total	Cumulative percent	1974 rank	1974 value	Percent of total	Cumulative percent	1973 value	Percent of total	Cumulative percent
0114	Poultry, killed or dressed.....	(15)	28,393	1.0	59.1	(15)	28,263	1.1	50.0	25,387	1.3	45.5
82109	Furniture, parts n.e.s. <sup>1</sup> .....	(16)	27,145	1.0	.....	(23)	19,573	.8	.....	13,786	.7	.....
3218	Coke and semi-coke of coal.....	(17)	26,302	1.0	.....	(24)	17,315	.7	.....	7,815	.4	.....
2120	Fur skins, undressed.....	(18)	24,093	.9	.....	(16)	27,671	1.1	.....	16,444	.9	.....
0311	Fish, fresh, chilled, frozen.....	(19)	23,615	.9	.....	(19)	24,060	1.0	.....	19,615	1.0	.....
67411	Iron and steel heavy plates.....	(20)	23,539	.9	63.6	(12)	28,462	1.1	54.7	15,137	.8	49.3
7321	Passenger motor cars.....	(21)	21,028	.8	.....	(48)	8,939	.4	.....	12,556	.7	.....
05361	Fruit preserved by freezing.....	(22)	20,429	.7	.....	(25)	16,684	.7	.....	16,139	.8	.....
2421	Pulpwood (including broadleaved).....	(23)	20,330	.7	.....	(28)	15,261	.6	.....	8,883	.5	.....
7151	Machine tools for metal.....	(24)	18,441	.7	.....	(22)	20,158	.8	.....	11,168	.6	.....
3323	Distillate fuels.....	(25)	17,256	.6	67.1	(49)	8,627	.3	57.5	6,068	.3	52.2
01189	Meat and edible offals.....	(26)	15,225	.6	.....	(31)	14,424	.6	.....	13,998	.7	.....
0115	Meat of horses, asses, mules, and hinnies.....	(27)	15,151	.5	.....	(33)	14,162	.6	.....	11,015	.6	.....
7221	Electric power machinery.....	(28)	14,200	.5	.....	(29)	14,827	.6	.....	8,990	.5	.....
7125	Tractors.....	(29)	13,564	.5	.....	(57)	7,107	.3	.....	3,818	.2	.....
84144	Outer wear, knit, nonelastic.....	(30)	13,291	.5	69.7	(34)	14,020	.6	60.1	10,952	.6	54.7
65691	Linens, etc.....	(31)	12,901	.5	.....	(30)	14,646	.6	.....	11,418	.6	.....
71521	Converters, ladles, etc.....	(32)	12,681	.5	.....	(40)	10,505	.4	.....	6,595	.3	.....
2820	Iron and steel scrap.....	(33)	12,529	.5	.....	(17)	27,172	1.1	.....	17,566	.9	.....
8443	Under garments, knitted, crocheted.....	(34)	12,405	.4	.....	(36)	13,317	.5	.....	8,314	.4	.....
82101	Chairs and other seats and parts.....	(35)	12,392	.4	72.0	(45)	9,402	.4	63.1	6,847	.4	57.4
6861	Zinc, alloys, unwrought.....	(36)	12,184	.4	.....	(14)	28,276	1.1	.....	18,602	1.0	.....
1210	Tobacco, manufactured.....	(37)	11,014	.4	.....	(55)	7,454	.3	.....	10,418	.5	.....
0011	Bovine cattle (including buffaloes).....	(38)	10,657	.4	.....	(5)	63,990	2.6	.....	122,891	6.4	.....
59953	Casein and derivatives, etc.....	(39)	10,294	.4	.....	(32)	14,397	.6	.....	12,664	.7	.....
6740	Iron/steel universal plate sheet.....	(40)	10,051	.4	73.9	(20)	22,666	.9	68.6	6,286	.3	66.3
5120	Organic chemicals <sup>2</sup> .....	(41)	9,783	.4	.....	(50)	8,358	.3	.....	4,953	.3	.....
8413	Leather apparel and accessories.....	(42)	9,568	.3	.....	(59)	6,745	.3	.....	4,142	.2	.....
63229	Other cotton fabrics.....	(43)	9,491	.3	.....	(38)	11,025	.4	.....	9,229	.5	.....
6911	Iron/steel finished structural parts.....	(44)	9,027	.3	.....	(43)	9,864	.4	.....	4,555	.2	.....
0250	Eggs.....	(45)	8,505	.3	75.6	(37)	11,555	.5	70.5	6,967	.4	67.9
69411	Iron/steel nails, tacks, staples.....	(46)	8,350	.3	.....	(35)	13,410	.5	.....	8,311	.4	.....
24331	Lumber, sawn lengthwise, nonconifer.....	(47)	8,304	.3	.....	(42)	10,288	.4	.....	8,508	.4	.....
5611	Nitrogenous fertilizers.....	(48)	8,186	.3	.....	(104)	3,388	.1	.....	9,929	.5	.....
0545	Other fresh vegetables.....	(49)	7,751	.3	.....	(41)	10,451	.4	.....	10,132	.5	.....
2312	Synthetic rubber.....	(50)	7,731	.3	77.1	(79)	4,855	.2	72.2	4,190	.2	70.1
	Top 50 total.....		2,128,011	77.1	.....		1,798,599	72.2	.....	1,336,227	70.1	.....
	Total exports to Industrialized Western countries.....		2,760,655	.....	.....		2,490,824	.....	.....	1,907,384	.....	.....

<sup>1</sup> Not elsewhere specified.<sup>2</sup> Exports to United States only. Inclusion of exports to other I.W. countries at this level of aggregation would result in a higher rank for this item.

Examination of Table 8, which describes the distribution of Polish exports among the 15 I.W., leads to the following observations:

Poland's number one trading partner was the Federal Republic of Germany, taking 21% of 1975 Polish exports to the I.W., followed by France, Italy, the U.K., and the United States.

For the most part, exports of the major income items were spread across several of the I.W. countries. However, 69% of prepared or preserved meats (second rank, SITC 0138) went to the United States in 1975; 77% of internal combustion engines (10th rank, SITC 7115) to Italy; and virtually 100% of bacon (11th rank, SITC 0121) to the U.K.

The United States imported 14 of Poland's top 25 export items to the I.W.

TABLE 8.—POLAND: DOLLAR VALUE OF TOP 25 1975 EXPORTS TO THE INDUSTRIALIZED WEST AND PERCENT SHARE TAKEN BY EACH WESTERN COUNTRY

SITC	Export item	1975 rank	Dollar value (thousands)	Percent shares taken by Industrialized Western countries													
				Canada	United States	Japan	Belgium/Luxembourg	France	Federal Republic of Germany	Italy	Netherlands	Austria	Norway	Sweden	Switzerland	United Kingdom	Denmark
3214	Coal (anthracite and bituminous)....	1	819,434	0.2	0.3	7.8	8.0	22.1	10.5	20.0	6.3	6.2	1.1	2.0	0.3	0.6	14.5
0138	Prepared or preserved meat.....	2	154,227	1.3	68.6	( <sup>1</sup> )	( <sup>1</sup> )	2.2	15.4	.1	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	4.1	( <sup>1</sup> )	10.2	...
7353	Ships and boats.....	3	82,465	( <sup>1</sup> )	.1	.2	.5	12.5	2.8	( <sup>1</sup> )	32.4	27.5	16.4	7.4	...	...	...
2741	Sulfur.....	4	76,829	.....	.....	.....	.5	27.9	14.8	8.1	6.5	7.6	1.6	7.6	25.4	( <sup>1</sup> )	...
68212	Copper, refined.....	5	71,957	.....	.....	.....	.....	1.9	72.9	2.3	.1	.8	2.6	1.1	18.4	.....	.....
3324	Residual fuel oils.....	6	61,988	.....	.....	.....	.....	.....	9.5	1.8	.....	17.0	.5	43.8	.....	27.4	.....
24321	Lumber, sawn lengthwise.....	7	55,130	.....	.....	.....	1.6	12.2	17.0	2.7	4.0	.....	.....	.5	62.0	( <sup>1</sup> )	.....
84112	Women's outer wear, knit.....	8	50,697	1.0	4.4	.....	4.1	6.9	66.9	1.5	10.1	.1	.1	.5	1.0	2.7	.9
0015	Horses, asses, mules, hinnies.....	9	49,743	.2	.4	.....	2.4	54.3	5.0	34.4	1.2	.3	.1	.4	1.9	.....	.....
7115	Internal combustion engines.....	10	46,322	( <sup>1</sup> )	.1	( <sup>1</sup> )	( <sup>1</sup> )	.3	7.7	77.0	.3	.2	( <sup>1</sup> )	7.1	( <sup>1</sup> )	7.2	.4
0121	Bacon, ham, and other pig meat.....	11	36,252	.....	.2	.....	( <sup>1</sup> )	.....	.....	.....	.....	.....	.....	.1	99.8	.....	.....
84111	Men's and boys' outer garments.....	12	34,074	2.8	13.0	.2	8.3	4.2	45.2	.4	11.3	( <sup>1</sup> )	.2	2.4	1.6	8.9	1.5
85102	Footwear, leather.....	13	33,514	13.1	33.4	.....	.8	2.3	11.2	.....	2.2	.3	.9	.8	.3	33.9	.7
68111	Silver, unwrought.....	14	29,573	.....	1.6	.9	26.7	4.4	30.3	.....	6.2	5.0	.....	25.0	.....	.....	.....
0114	Poultry, killed and undressed.....	15	28,393	.....	.....	1.3	.2	6.4	85.5	( <sup>1</sup> )	.2	4.0	.....	( <sup>1</sup> )	2.4	.....	.1
82109	Furniture, parts.....	16	27,145	1.4	.....	.1	.5	1.2	30.1	.1	3.9	2.3	3.7	44.9	1.8	7.8	2.4
3218	Coke and semi-coke of coal.....	17	26,302	.....	.....	.....	5.0	.....	13.7	.5	.....	77.0	1.8	1.1	.....	.....	.....
2120	Fur skins, undressed.....	18	24,093	9.3	8.1	4.5	.1	4.8	16.2	.3	( <sup>1</sup> )	.1	.....	1.7	.....	54.8	.....
0311	Fish, fresh, chilled, frozen.....	19	23,615	3.2	20.7	.9	1.3	14.4	25.2	1.0	3.2	1.3	.3	1.5	.....	12.1	14.8
67411	Iron and steel heavy plates.....	20	23,539	10.0	.....	.....	( <sup>1</sup> )	.....	31.3	1.2	.1	.1	25.3	23.0	.....	1.1	7.8
7321	Passenger motor cars.....	21	21,028	.....	28.2	.....	4.5	22.8	6.9	.1	3.8	.1	5.2	.....	.....	26.1	.1
05361	Fruit preserved by freezing.....	22	20,429	1.1	.....	.....	2.9	9.0	57.6	.....	.....	2.9	5.2	7.0	.....	.....	.....
2421	Pulpwood.....	23	20,330	.....	.....	.....	1.3	2.6	9.2	9.6	.....	36.7	5.2	33.1	.....	.4	9.6
7151	Machine tools for metal.....	24	18,441	5.9	11.9	8.9	1.2	11.4	5.8	14.4	.2	4.4	4.3	6.2	1.9	23.3	.4
3323	Distillate fuels.....	25	17,256	.....	.....	.....	8.9	.....	41.5	.....	7.1	.....	2.8	22.3	.....	.....	17.9
Total exports to Industrialized Western countries.....			2,760,655	1.5	8.8	2.9	4.4	12.8	21.1	11.1	5.2	5.3	2.5	7.1	1.4	9.2	6.6
Total imports from Industrialized Western countries.....			5,189,098	2.2	11.2	5.0	4.2	12.1	25.1	7.8	3.6	6.4	1.2	7.9	3.4	7.5	2.5

<sup>1</sup> Small amount, rounding to zero.

## 2. PRODUCT DIVISION ANALYSIS

From our data we draw some general conclusions with respect to future export capabilities:

Polish growth in exports to the I.W. has not been as broadly based as might be anticipated. 1975 export values dropped in 21 of the top 50 items when compared to 1974 levels. In fact, nine items were lower in 1975 than in 1973. The vast majority of dollar growth between 1973 and 1975 has stemmed from coal. Other gains of some significance came in sulfur (\$41 million), internal combustion engines (\$45 million), and clothing (\$47 million). Clearly, however, these increases were overwhelmed by those of coal.

Like the Soviet growth, a substantial portion of Polish 1973-75 export growth stemmed from energy price increases. Indeed, coal volume shipments decreased from 1974 to 1975, but value increased. In fact, earnings increases from 1973 to 1975 of some \$547 million on two coal items were equivalent to almost two-thirds of the total advance in Polish exports to the I.W. Additionally, petroleum products exports advanced \$60.5 million apparently on the strength of price increases. Thus, over 70% of Poland's 1973-75 dollar earnings increase on exports to the I.W. came from coal and petroleum products exports and these gains were essentially the windfall outcome of price increases of a magnitude unlikely to be repeated.

Because coal has been overwhelming the largest hard currency item (30.7% of 1975 total) both future export prices and volumes are of very great significance to Polish hard currency capabilities in the years ahead.

Also very important will be price and export volumes of meat, sulfur, and copper.

At a total of \$575 million and with 20.8% share of 1975 exports to the I.W., finished goods manufactures (SITC 7 and 8) exports have become relatively significant income earners that may be expanded in the future.

*a. Coal*

Next to the United States, Poland is the world's second largest coal exporter, with half of its shipments going to hard currency countries. Earnings from coal and coke (SITC 32) sales accounted for 16% of total exports to the Industrialized West in 1973, but had mushroomed to 31% by 1975. The 181% increase in dollar earnings between 1973 and 1975 was principally due to the effect of substantial coal price increases similar to those evident in the world market price of oil.

The relative importance of coal as an export commodity is based on Poland's vast reserves, whose development has been particularly brisk in the 1970's. An indication of the recent stress placed on coal production is the 1975 opening of the Katowice Colliery, thirty months ahead of schedule. The complex is reportedly the largest in Europe, wholly mechanized and automated, and built using 90% Polish-made equipment. Katowice was the fourth new mine opened between 1970 and 1975, during which time fifteen mines were also modernized and

expanded. The Poles are committed to the goal of increasing production capacity. Total output is slated to increase 4.1% annually during the 1976-80 period, while the entire coal mining industry is to undergo extensive modernization. Part of the upgrading scheme will be supported by Western credit, earmarked for development of a new mining area at Lublin.

In addition to modernizing and expanding the mining industry, Poland has allocated large research and development expenditures in the current Five-Year Plan for comprehensive coal processing systems. Much of the ongoing research follows lines similar to that in the United States and includes liquefaction and hydrogenation.

In sum, Poland has potential for substantial increases in coal producing capacity using relatively sophisticated domestic technology. Long-term contracts have assured a hard currency outlet for most planned coal exports to the West,<sup>13</sup> which should increase moderately, perhaps six to eight percent per year over the 1976-1980 period. Strong Western demand, motivated in part by attempts to expand coal's share of the energy base, should keep prices on the upward trend. Even if the Poles find that capacity increases become difficult to realize or that CMEA and domestic demands impinge upon above-contract shipments to the West, unit price increases could buoy earnings as they did in 1975 when slightly decreased volume exports were offset by rising prices. Substantial further export increases may come on stream in the early 1980's, when the Lublin mines begin to turn out large volumes of coal, and when some of the gains from current R & D become evident.

#### *b. Meat and meat preparations*

Exports of meat and meat preparations were the second largest commodity group shipped to the Industrialized West in 1975. Sales of meat products, particularly hams and bacon, have earned on the average of \$263 million in hard currency since 1973. Although prepared meat exports increases have been steady, it is highly unlikely that they can increase to a significant degree in the near or long term. Factors weighing heavily against expansion are domestic demand and uncertainties in agricultural performance, created by both periodic unfavorable weather conditions and structural problems in the sector.

Polish meat consumption has escalated in recent years, and there seems to be no end in sight. Demand has far outstripped supply and last year's attempt to apply limits to domestic food consumption by raising prices clearly failed. To ease the bottleneck, Poland is reportedly looking to Western markets as possible sources of supply for some kinds of meat. Although this appears to be a short-term expediency, it does illustrate that assured increases in meat exports may be difficult to achieve.

Further, in recent years Poland has had to import increasing quantities of grain and protein feeds from hard currency sources to satisfy its total requirements. Unless the situation changes, increased meat exports can be gained only at the expense of increased grain imports, reducing the net hard currency benefit of such exports.

<sup>13</sup> Countries which negotiated coal contracts with Poland are (in order of approximate size of contract): Finland, Italy, France, Belgium, Japan, Denmark, Austria, Netherlands. Contracts are reported to be still under negotiation with United Kingdom and Sweden.

Also noteworthy is the precipitous drop in exports of live animals (see Table 7), particularly bovine cattle (SITC 0011), whose sales plunged from \$123 million in 1973 to \$11 million in 1975. Apparently the principal factor behind the decline was an EC restriction on beef imports that began in 1974, frustrating what was an existent Polish export capacity. Added to this was the decline in bacon, ham, and other pig meat (SITC 0121) exports which had been almost totally absorbed by Great Britain. It appears that upon Great Britain's entry into the Common Market in 1973, it became economically more advantageous to import bacon products from other EC member countries, thereby causing a decline in imports of this commodity from Poland.

#### *c. Nonferrous metals*

Exports of nonferrous metals (SITC 68) (copper, silver, zinc) ranked fifth among Polish exports to the Industrialized West in 1975. Substantial future increases in export tonnage of nonferrous metals, particularly copper, are probable.

Poland is said to possess Europe's largest copper reserves, and to develop these deposits, an extensive modernization scheme has been underway and will continue. To spearhead the effort, in 1975 the Poles raised \$240 million on the Eurodollar market. In addition, West Germany extended a ten year credit line for developing raw materials, particularly copper.

A new mine was added at Rudna in 1974 and the Lublin and Polkowice complexes are to be expanded. Expansion is also in progress at the Legnica smelter and at Glogow, for which a \$100 million joint United States-Canadian loan has been negotiated.

Research and development allocations have also been earmarked for the copper industry. The Poles are primarily interested in furthering their capacity in developing copper products, whereby value added brings higher prices in the Western market.

As is the case with coal, copper exports are largely under long-term contracts. In 1975, Poland agreed to deliver 25,000 tons of copper annually to France for the next fifteen years. In 1976, Poland signed a deal with West Germany's Metallgesellschaft consortium to deliver 40,000 tons of electrolytic copper (cathodes and wire bars) for the next twelve years. Consequently, some feel copper export tonnage to the West can be reasonably expected to nearly triple by 1980.

#### *d. Minerals and chemicals*

Ranking second only to Canada, Poland has become a major sulfur exporter in recent years. In addition, it has developed technology and equipment for complete sulfuric acid plants. These have been installed in several less developed countries around the world.

Exports of sulfur are expected to double as development of the Tarnobrzeg basin continues during the current plan period. Furthermore, it appears that earnings from chemicals, particularly sulfuric acid, caustic soda, nitrogen fertilizers, PVC, and synthetic fibers exports could also double by 1980. These products can be expected to come on stream during the latter part of the current plan period as plants built largely with Western cooperation (equipment and credits) become operative.

*e. Manufactured goods*

Poland is unique among the countries of Eastern Europe in that during the Five-Year Plan between 1971-1975, it adopted a deliberate policy of modernizing its manufacturing base by massive imports of Western plant, equipment, and technology. The game plan called for some of these imports to produce manufactured goods which, in turn, could be sold in Western markets for hard currency.

Exports of manufactured goods during 1974 and 1975 accounted for 17 and 21% of total exports to the I.W. (see Table 6). Historical data are inadequate, however, for analysis of Poland's manufactured goods export potential because the manufacturing base had not yet reached the full potential prescribed by the plan set out during 1971-75. A more meaningful approach is instead to analyze those product divisions and items which appear to have been earmarked for expansion.

Those which appear to be geared for export increases in the next five years are machinery, tractors, ships, and automobiles. Many of these will be produced under Western license and geared toward series output aimed at making the goods more competitive in terms of efficiency, quality and profitability.

Machinery, nonelectric (SITC 71) has become the third largest Polish export to the Industrialized West with earnings nearly tripling from the 1973 value of \$48 million to \$145 million in 1975 (see Table 7).

Internal combustion engines, mining equipment, tractors, and machine tools, were among major exports from that group. Sales, specifically of engines and tractors, can be expected to increase during the current plan period, in part on the basis of a \$350 million deal signed in 1974 with two British firms, Massey-Ferguson and Perkins Diesel Company (both are part of Massey-Ferguson Holdings). The Ursus works, just outside Warsaw, is expected to bring MFP tractor units into series production by about 1978. Since the 1974 deal is in part buy-back, tractor sales should register an increase in the latter part of the plan period. However, hard currency exports cannot be expected to surge dramatically as domestic plans call for a one-third increase in farm production based largely on increased mechanization.

Mining equipment sales have accounted for a noteworthy portion of capital goods exports; in particular, Poland's coal mining equipment is relatively competitive in Western markets.

The remaining category of heavy industry goods which seems to have export potential is the transport equipment (SITC 73) group, wherein the primary commodities are ships and automobiles. Improvements in shipbuilding technology, the result of substantial investment outlays during the 1971-1975 plan period, have been significant. An indication of what may be a future trend is the 1977 scheduled Polish delivery of two liquefied natural gas tankers to the United States, valued at \$93 million. Reportedly, the French are also examining the possibility of importing Polish-made ships.

Gains in sales of automobiles also appear promising during the current plan period. The Poles have imported Fiat technology, manufacturing the "Polski Fiat" for export markets. By sticking to one licensee, it has been possible to gain efficiencies of scale and to benefit from series production. Auto output, doubling between 1971-1975 can be expected to double again in the current plan period. Production

increases, however, will not necessarily imply proportionate increments in export sales if fulfillment of domestic demands becomes increasingly urgent.

A third group of recently developed commodities is in the aviation industry. Primary commodities have been light planes and agricultural aircraft and engines. Sales of these, however, are not likely to come on stream until the 1980's.

Huge export campaigns have also been launched in some light industries. Exports of clothing have been particularly significant in recent years, as have sales of footwear. However, as with output of some other consumer goods, pent up domestic demands can be expected to mitigate against a large surge in exports to Western markets. Additionally, in some markets, quota restrictions limit the export expansion of these import sensitive items.

Finally, a relatively "young" export line, developed largely in this decade, consists of sports and camping equipment. Although it is questionable whether sales of these items will be significant enough in the next few years to account for substantial hard currency earnings, they are nonetheless noteworthy. In these product lines, Polish manufacturers have continuously evolved toward ever-higher quality and expanded capacity. The export mix consists of bicycles, quality camping tents, air mattresses, boats, and ski equipment. The Polish firm, Universal Foreign Trade Enterprise, has been the primary exporter of these goods, which in part have been produced in cooperation with Western manufacturers.

To summarize, although much can be said about the extent to which infusions of Western technology have upgraded the manufacturing base, it is questionable whether Poland can realize substantial export gains from this sector by 1980. It appears that the manufacturing base is still not completely geared toward export production, evidenced by the call in the current plan for further streamlining and continued modernization. Also, greater marketing efforts and outside distribution networks are needed for exporting increased quantities of manufactured goods. Beyond these factors is the traditional Western hesitation about the quality of East European manufactured goods, not to mention the strong domestic pressures bearing on the Polish economy. A final unknown is the extent to which trade barriers in Western economies may act to prevent meaningful market penetration. On balance, it appears that near term hard currency capabilities will still center around coal, sulfur, and copper exports, rather than on sales from the manufacturing sector.

### 3. ROLE OF COUNTERTRADE IN POLISH EXPORTS THROUGH 1980

In light of their rising hard currency debt, the Poles have increasingly sought to tie their imports to future exports, in order to provide, at the minimum, an assured debt-servicing capability. At the outset of the 70's, cooperation deals involving buy-back of Polish products accounted for about 1.5% of sales to the West. By 1975 this share had risen to about 12%. Since most of the countertrade agreements were negotiated between 1973 and 1975, it can be expected that at least some of these will begin to add to hard currency earnings before the end of the decade.

One of the largest deals was negotiated in 1974 between the British concerns Massey-Ferguson and Perkins Diesel Company and the Polish Foreign Trade Enterprise Agromet-Motoimport.<sup>14</sup> This agreement called for Polish imports of equipment for the tractor and diesel industries which in turn would produce tractors and diesel exports for marketing in the West. Output is expected to come on stream in the latter part of the seventies, but will not reach full potential until the 1980's.

Countertrade agreements in the chemical industry have also been significant and are expected to contribute in large measure to the projected two-fold increase in chemical exports by 1980. One chemical deal, negotiated in 1975 with Britain's Petrocarbons Ltd., calls for annual Polish exports of almost \$125 million of PVC. France's Creusot-Loire exported equipment and technology for a fertilizer plant which is also expected to generate chemical fertilizer exports.

Finally, several contracts have been negotiated with Western firms which are to export plant, equipment, and technology, in part to be financed by imports of coal, copper, and sulfur.

Although countertrade arrangements can be viewed as a vehicle for furthering Polish export capability, it appears that in the near term, their contributions to export volumes will be mixed, due in part to the fact that it seems to be taking more time than anticipated to get new plants to produce efficiently.

#### 4. SUMMARY

The potential for increasing Polish exports to the I.W. countries through 1980 appears promising for several commodity groups. Among these are coal, copper, sulfur, and some manufactured goods. However, increases in export earnings will probably depend more on ability to increase the volume of shipments than on price increases, since the large windfalls, carried by escalating prices between 1973 and 1975 are not likely to be repeated.

Coal exports will probably increase in volume, based on production increases which should be forthcoming from the continued development, using relatively sophisticated technology, of extensive domestic coal reserves. Exports to the I.W. countries, already scheduled under previously negotiated contracts, will assure substantial earnings in the near term.

Poland's second largest export group, meat and meat products, however, cannot be expected to show significant increases in hard currency earnings. Uncertainties in agricultural performance coupled with escalating domestic demand may appear as constraints on available export volumes.

Copper exports can be expected to rise based on increasing production from extensive reserves. This production already has an assured export outlet in long-term contracts similar to those negotiated for coal deliveries.

Exports of sulfur show promise of doubling during the current plan as existing export capacity is further augmented by development of additional sulfur deposits.

<sup>14</sup> For a more complete treatment of countertrade arrangements, see Matheson, et al., "Countertrade Practices in Eastern Europe", in this volume.

Manufactured goods exports may increase as Poland begins to capitalize on the benefits of its massive technological import program of the 1971-75 Five-Year Plan. In particular, exports of machinery, tractors, ships, automobiles, and light industry manufactures such as clothing, and camping and sports equipment, may show an upward movement. However, quality and servicing problems, which beset many East European manufactures, added to potential Western import barriers, may mitigate against substantial penetration of Western markets.

### C. German Democratic Republic

#### 1. DATA HIGHLIGHTS

With a 1975 total of \$2.25 billion, after the U.S.S.R. and Poland, the German Democratic Republic is the third largest exporter to the I.W. (13.6% of total U.S.S.R./EE exports to the I.W.) in the Soviet/EE group covered by this paper. Table 9 disaggregates GDR exports at the one-digit section level and indicates the following:

Growth in GDR exports has been relatively rapid, increasing nearly 86% over the 1972-75 period, with no really significant changes in the overall composition.

The composition of GDR exports is in marked contrast to that of the U.S.S.R. and Poland, with primary products (SITC 0-4) providing only 33.8% of deliveries to I.W.

The GDR total of \$1.48 billion of intermediate and manufactured goods (SITC 5-8) exports represented 65.7% of its total, only about \$200 million less than that of the Soviet Union, and substantially larger than that of any other East European country. In manufactured goods exports (SITC 7-8) the GDR is the first ranking exporter in the Soviet/EE group, with a total of \$728 million.

TABLE 9.—GERMAN DEMOCRATIC REPUBLIC: EXPORTS TO INDUSTRIALIZED WESTERN COUNTRIES, 1972-75.  
(Amounts rounded to millions of U.S. dollars)

SITC	Description	1972		1973		1974		1975	
		Amount	Per-cent	Amount	Per-cent	Amount	Per-cent	Amount	Per-cent
0	Food and live animals.....	\$208	17.1	\$301	18.8	\$252	12.0	\$349	15.5
1	Beverages and tobacco.....	5	0.4	8	0.5	10	.5	15	.7
2	Crude materials, inedible, except fuels..	83	6.9	115	7.2	177	8.4	145	6.4
3	Mineral fuels, lubricants and related materials.....	83	6.8	157	9.8	263	12.5	240	10.7
4	Animal and vegetable oils and fats.....	7	.6	12	.7	22	1.0	13	.6
5	Chemicals.....	98	8.1	120	7.5	208	9.8	236	10.5
6	Manufactured goods classified chiefly by material.....	293	24.1	372	23.2	489	23.2	514	22.8
7	Machinery and transport equipment....	169	14.0	210	13.1	261	12.4	262	11.6
8	Miscellaneous manufactured articles....	264	21.8	302	18.9	387	18.4	466	20.7
9	Commodities not elsewhere classified...	2	.2	2	.1	40	1.9	11	.5
	Total.....	1,211	100.0	1,599	100.0	2,108	100.0	2,252	100.0
0-4	Primary products.....	385	31.8	593	37.8	724	34.4	762	33.8
5-6	Intermediate goods.....	390	32.2	492	30.8	696	33.0	750	33.3
7-8	Manufactured goods.....	433	35.8	512	32.0	648	30.7	728	32.4

Our disaggregated 2 and 5 digit information in Table 10 is faulty in that the data do not include exports to the Federal Republic of

Germany.<sup>15</sup> Exports to the FRG in 1975 were \$1.36 billion, an amount equal to over 60 percent of the total to the I.W. Similar percentages went to the FRG over the years 1972 through 1974. Additionally, there were some rather significant differences in the composition of exports to the FRG, compared to those to the remaining I.W. countries. Generally speaking, the relative shares of GDR exports to the FRG were lower than the Table 9 percentages in the case of chemicals (SITC 5) and machinery and transport equipment (SITC 7), but relatively higher in manufactures classified by chief material (SITC 6) and miscellaneous manufactures (SITC 8).

Recognizing the serious limitations this places on our disaggregated data, examination of Table 10 reveals the following:

There was no single dominant product division in GDR exports to the other 14 I.W. The top ranking division, chemical elements and compounds (SITC 51), with 8.3% of total, was less than twice as large as the eleventh ranking export, furniture (SITC 82), which comprised 4.3% of the total.

The top 50 1975 export items included 19 manufactured goods items (SITC 7 and 8), a number larger than that of any other country in the Soviet/EE group.

Live swine (SITC 0013) was the first ranking export item, with 5.7% of total exports to the 14 I.W.; swine meat (SITC 0113) ranked second and provided another 4.6% of the total.

Of the top 50 items, 1975 sales increased relative to 1974 in 38 items, declined in 12.

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<sup>15</sup> The FRG does not report trade with the GDR as foreign trade. Rather, it is considered to be "international trade".

TABLE 10.—GERMAN DEMOCRATIC REPUBLIC: LEADING 1975 EXPORTS TO INDUSTRIALIZED WESTERN COUNTRIES (EXCLUDING FEDERAL REPUBLIC OF GERMANY)

[Values in thousands of U.S. dollars]

SITC	Commodity	1975 rank	1975 value	Percent of total	Cumulative percent	1974 rank	1974 value	Percent of total	Cumulative percent	1973 value	Percent of total	Cumulative percent
<b>1975 RANK ORDER OF PRODUCT DIVISIONS (2-DIGIT SITC)</b>												
51	Chemical elements and compounds.....	(1)	73,838	8.3	-----	(2)	68,546	8.1	-----	31,324	5.3	-----
71	Machinery, nonelectric.....	(2)	71,433	8.0	-----	(1)	74,457	8.8	-----	54,728	9.2	-----
89	Miscellaneous manufactured articles, n.e.s. <sup>1</sup> .....	(3)	64,670	7.3	-----	(4)	61,174	7.2	-----	45,304	7.7	-----
00	Live animals.....	(4)	59,481	6.7	-----	(5)	58,881	6.9	-----	60,619	10.2	-----
67	Iron and steel.....	(5)	52,810	5.9	36.2	(3)	68,369	8.1	39.1	35,434	6.0	38.4
72	Electric machinery, apparatus, appliances.....	(6)	50,615	5.7	-----	(7)	47,385	5.6	-----	38,793	6.6	-----
33	Petroleum and petroleum products.....	(7)	48,635	5.5	-----	(8)	40,458	4.8	-----	15,976	2.7	-----
73	Transport equipment.....	(8)	44,773	5.0	-----	(6)	49,377	5.8	-----	45,940	7.8	-----
01	Meat and meat preparations.....	(9)	43,516	4.9	-----	(13)	25,084	3.0	-----	26,645	4.5	-----
56	Fertilizers, manufactured.....	(10)	39,996	4.5	61.8	(9)	37,368	4.4	62.7	22,446	3.8	63.8
82	Furniture.....	(11)	37,831	4.3	-----	(10)	27,669	3.3	-----	19,683	3.3	-----
65	Textile yarn, fabrics.....	(12)	27,305	3.1	-----	(12)	25,770	3.0	-----	24,233	4.1	-----
66	Nonmetallic mineral manufactures, n.e.s. <sup>2</sup> .....	(13)	26,918	3.0	-----	(14)	24,367	2.9	-----	19,434	3.3	-----
24	Wood, lumber, and cork.....	(14)	23,330	2.6	-----	(11)	26,171	3.1	-----	7,780	1.3	-----
86	Professional, scientific, and controlling instruments.....	(15)	22,646	2.5	77.3	(15)	21,583	2.5	77.5	19,791	3.3	79.1
Top 15 total.....			687,797	77.3	-----		656,659	77.5	-----	468,130	79.1	-----
Total exports to Industrialized Western countries <sup>1</sup> .....			890,039	-----	-----		847,500	-----	-----	591,699	-----	-----
<b>1975 RANK ORDER OF ITEMS (5-DIGIT SITC)</b>												
0013	Swine.....	(1)	50,935	5.7	-----	(2)	37,472	4.4	-----	28,403	4.8	-----
0113	Meat of swine, fresh, chilled, frozen.....	(2)	40,814	4.6	-----	(6)	23,098	2.7	-----	23,077	3.9	-----
5613	Potassic fertilizers.....	(3)	39,502	4.4	-----	(9)	36,468	4.3	-----	21,665	3.7	-----
82109	Furniture and parts.....	(4)	28,631	3.2	-----	(7)	21,277	2.5	-----	14,251	2.4	-----
7353	Ships and boats, other than warships.....	(5)	27,665	3.1	21.1	(1)	37,539	4.4	18.4	34,891	5.9	20.7
6712	Pig iron (including cast iron).....	(6)	25,877	2.9	-----	(4)	31,241	3.7	-----	11,627	2.0	-----
7151	Machine tools for working metals.....	(7)	25,112	2.8	-----	(5)	24,878	2.9	-----	17,175	2.9	-----
3323	Distillate fuels.....	(8)	24,239	2.7	-----	(8)	19,993	2.4	-----	10,154	1.7	-----
51361	Ammonia, anhydrous or in aqueous solution.....	(9)	21,142	2.4	-----	(13)	12,120	1.4	-----	0	( <sup>3</sup> )	-----
3324	Residual fuel oils.....	(10)	19,065	2.1	34.0	(12)	12,189	1.4	30.2	1,551	.3	27.5
7221	Electric power machinery.....	(11)	13,458	1.5	-----	(11)	12,883	1.5	-----	7,551	1.3	-----
2421	Pulpwood (including broadleaved).....	(12)	13,330	1.5	-----	(18)	9,443	1.1	-----	258	0	-----
89423	Toys, n.e.s. <sup>2</sup> .....	(13)	11,684	1.3	-----	(15)	10,674	1.3	-----	7,306	1.2	-----

See footnotes at end of table.

TABLE 10.—GERMAN DEMOCRATIC REPUBLIC: LEADING 1975 EXPORTS TO INDUSTRIALIZED WESTERN COUNTRIES (EXCLUDING FEDERAL REPUBLIC OF GERMANY)—Continued

[Values in thousands of U.S. dollars]

SITC	Commodity	1975 rank	1975 value	Percent of total	Cumulative percent	1974 rank	1974 value	Percent of total	Cumulative percent	1973 value	Percent of total	Cumulative percent	
3216	Lignite briquettes and lignite	(14)	10,092	1.1	—	(16)	9,864	1.2	—	7,765	1.3	—	
8310	Travel goods, handbags, etc.	(15)	10,064	1.1	40.6	(20)	7,473	.9	36.2	4,958	.8	32.2	
0230	Butter	(16)	9,879	1.1	—	(38)	4,597	.5	—	990	.2	—	
51251	Monoacids and derivatives	(17)	9,856	1.1	—	(14)	11,432	1.3	—	5,811	1.0	—	
7317	Parts of railway locomotives	(18)	9,752	1.1	—	( )	281	( <sup>3</sup> )	—	137	( <sup>3</sup> )	—	
82101	Chairs and other seats and parts	(19)	8,477	1.0	—	(30)	5,777	.7	—	5,023	.8	—	
68111	Silver, unwrought or partly worked	(20)	8,464	1.0	45.8	(24)	6,468	.8	39.5	448	.1	34.3	
5811	Plastic products of condensation	(21)	8,365	.9	—	(28)	6,240	.7	—	3,958	.7	—	
89141	Pianos and harpsichords	(22)	8,113	.9	—	(23)	6,607	.8	—	4,071	.7	—	
6664	Porcelain or china, household ware	(23)	7,086	.8	—	(29)	6,003	.7	—	4,740	.8	—	
71829	Printing machinery, n.e.s. <sup>2</sup>	(24)	6,733	.8	—	(22)	6,714	.8	—	4,814	.8	—	
0612	Refined sugar, beet and cane sugar	(25)	6,660	.7	50.0	(39)	4,396	.5	43.1	2	( <sup>3</sup> )	37.3	
8614	Photographic cameras	(26)	6,274	.7	—	(37)	4,654	.5	—	5,848	1.0	—	
6537	Knitted or crocheted fabrics	(27)	6,199	.7	—	(35)	4,829	.6	—	4,454	.8	—	
89211	Printed books, pamphlets	(28)	6,166	.7	—	(31)	5,662	.7	—	5,785	1.0	—	
24321	Lumber, sawn lengthwise (conifer)	(29)	5,770	.6	—	(21)	6,793	.8	—	5,969	1.0	—	
7231	Insulated wire and cable	(30)	5,687	.6	53.4	(19)	8,452	1.0	46.7	8,136	1.4	42.4	
2312	Synthetic rubber	(31)	5,678	.6	—	(25)	6,452	.8	—	4,991	.8	—	
26631	Discontinuous regenerated fibers	(32)	4,879	.5	—	(55)	3,199	.4	—	2,282	.4	—	
0482	Malt (including malt flour)	(33)	4,818	.5	—	(36)	4,790	.6	—	3,706	.6	—	
6652	Glass tableware	(34)	4,662	.5	—	(40)	4,269	.5	—	3,466	.6	—	
71931	Lifting and loading machinery	(35)	4,643	.5	56.2	(42)	4,151	.5	49.4	3,389	.6	45.4	
6291	Rubber tires and tubes	(36)	4,639	.5	—	(57)	3,146	.4	—	2,004	.3	—	
33262	Mineral waxes	(37)	4,554	.5	—	(27)	6,287	.7	—	4,056	.7	—	
71992	Taps, cocks, valves, and similar apparatus, n.e.s. <sup>2</sup>	(38)	4,552	.5	—	(52)	3,554	.4	—	2,187	.4	—	
6783	Food-processing machines	(39)	4,486	.5	—	( )	837	.1	—	586	.1	—	
6666	Ornaments of china, porcelain	(40)	4,482	.5	58.7	(44)	4,028	.5	51.5	3,151	.5	47.4	
2120	Fur skins, undressed	(41)	4,264	.5	—	(26)	6,347	.7	—	2,997	.5	—	
0012	Sheep, lambs, and goats	(42)	4,211	.5	—	(53)	3,386	.4	—	2,782	.5	—	
7292	Electric lamps	(43)	4,090	.5	—	(61)	2,982	.4	—	2,591	.4	—	
24221	Sawlogs and veneer logs	(44)	4,059	.5	—	(17)	9,703	1.1	—	1,468	.2	—	
89422	Dolls	(45)	4,020	.5	61.0	(48)	3,707	.4	54.6	2,741	.5	49.6	
67251	Iron/steel, blooms, billets, slabs	(46)	3,925	.4	—	(10)	14,362	1.7	—	6,053	1.0	—	
7222	Electrical apparatus for circuits	(47)	3,801	.4	—	(50)	3,686	.4	—	2,778	.5	—	
89425	Christmas decorations	(48)	3,751	.4	—	(47)	3,768	.4	—	3,268	.6	—	
2218	Oilseeds, nuts, kernels	(49)	3,565	.4	—	(54)	3,291	.4	—	3,180	.5	—	
67321	Iron/steel bars and rods	(50)	3,449	.4	63.1	(41)	4,190	.5	58.0	2,388	.4	52.5	
Top 50 total			561,619	63.1	—	491,652			58.0	—	310,882	52.5	—
Total exports to Industrialized Western countries <sup>1</sup>			890,039	—	—	847,500			—	—	591,699	—	—

<sup>1</sup> Excluding Federal Republic of Germany.

<sup>2</sup> Not elsewhere specified.

<sup>3</sup> Small amount, rounding to zero.

Table 11 shows the destination of the top 25 items exported to the 14 I.W. in 1975 (data on the FRG is excluded). Some points of interest are:

Other than the FRG, France and Sweden were the largest I.W. markets for GDR goods. Each took over 18% of the total exported to the 14 I.W.

France took nearly 73% of the GDR's swine meat (SITC 0113) exports and 94% of railway locomotive parts (SITC 7317) exports. Sweden took nearly 100% of pulpwood (SITC 2421) shipments.

TABLE 11.—GERMAN DEMOCRATIC REPUBLIC: DOLLAR VALUE OF TOP 1975 EXPORTS TO THE INDUSTRIALIZED WEST AND PERCENT SHARE TAKEN BY EACH WESTERN COUNTRY (EXCLUDING THE FEDERAL REPUBLIC OF GERMANY)

SITC	Export item	1975 rank	Dollar value (thousands)	Percent shares taken by Industrialized Western countries														
				Canada	United States	Japan	Belgium/Luxembourg	France	Federal Republic of Germany	Italy	Netherlands	Austria	Norway	Sweden	Switzerland	United Kingdom	Denmark	
0013	Swine.....	1	50,935				11.7	33.2		48.6				6.3			0.3	
0113	Swine meat, fresh, chilled, frozen.....	2	40,814				5.4	72.9		21.7								
5613	Potassic fertilizers.....	3	39,502			8.0	7.0	2.3		10.5	7.9							
82109	Furniture and parts.....	4	28,631			7	5.5	20.5		3	12.2	5.4	0.6	12.7	.2	38.8	12.1	
7353	Ships and boats (not warships).....	5	27,665		(?)		(?)						3.8	24.6	3.4	21.5	2.1	
6712	Pig iron (including cast iron).....	6	25,877			44.0	5.4	.7		5.5	.2	(?)	57.6	38.4	.2	(?)	2.8	
7151	Machine tools for working metal.....	7	25,112	4.8	3.8	11.0	5.0		17.0	8.1	4.9		1.2	14.5	1.4	21.2	1.1	
3323	Distillate fuels.....	8	24,239				4.6							8.6		75.1	2.6	8.7
51361	Ammonia, anhydrous, etc.....	9	21,142						8.4					8		25.4		59.8
3324	Residual fuel oils.....	10	19,065				1.8			5.6				34.1	4.4	20.2		39.5
7221	Electric power machinery.....	11	13,458		(?)	.1	10.8		26.9		5.7	9.1		4.9	2.5	29.0	2.1	.7
2421	Pulpwood (including broadleaved).....	12	13,330			.4								1		99.8		7.8
89423	Toys, n.e.s. <sup>a</sup> .....	13	11,684	.2	1.3	.1	10.8	12.6		8.7	15.4			4.4	6.8	17.1	8.6	8.2
3216	Lignite, briquettes, etc.....	14	10,092							1.2	.4			90.2		.7	.6	6.8
8310	Travel goods, handbags, etc.....	15	10,054		(?)	(?)	16.9	18.9		.5	11.1			3.1	6.0	13.6	13.1	8.3
0230	Butter.....	16	9,879				81.1	1.9				8.6						1.4
51251	Monoc acids and derivatives.....	17	9,856				17.5	15.0		5.4	19.6			2.8	.7	29.2	3.3	.4
7317	Parts of railway locomotives.....	18	9,752			.1			93.9			(?)				3.7		6.1
82101	Chairs and other seats, parts.....	19	8,477		(?)		8.0	9.9				.1						2.2
68111	Silver, unwrought, partly worked.....	20	8,464							4	22.1			6.0	2.8	20.0	7.8	19.4
5811	Plastic products of condensation.....	21	8,365									.7						99.3
89141	Pianos and harpsichords.....	22	8,113		(?)	.2	51.5	3.2		.5	2.3			3.0	.1	31.4	2.6	2.1
6664	Porcelain, china.....	23	7,086	1.2	3.6	1.6	5.1	35.2		22.3	6.3	1.0	8.7	10.8	4.4	3.4	3.4	2.2
71829	Printing machines, n.e.s. <sup>a</sup> .....	24	6,733	3.8	29.8	7.6	3.0	5.5		33.8	5.8	14.0	2.6	6.9	8.6	5.4	8.1	
0612	Refined sugar.....	25	6,660				.1	25.0		7.4	2.7			.1	2.1	15.6	.6	1.2
							16.9	81.1						2.0				3.8
	Total exports to Industrialized Western countries <sup>1</sup> .....		890,039	.6	1.3	3.2	9.1	18.4		9.8	8.8	7.9	3.7	18.2	2.6	9.7		6.8
	Total imports from Industrialized Western countries <sup>1</sup> .....		1,030,232	.4	1.7	4.8	7.3	17.5		8.6	12.4	11.2	4.7	15.1	7.0	6.9		2.5

<sup>1</sup> Excluding Federal Republic of Germany.

<sup>2</sup> Small amount, rounding to zero.

<sup>3</sup> Not elsewhere specified.

## 2. GDR'S EXPORTS TO THE FEDERAL REPUBLIC OF GERMANY

Over 60% of GDR's exports to the 15 I.W. countries have gone to the Federal Republic of Germany, with which the GDR enjoys a unique trading relationship. Our disaggregated data presented in Tables 10 and 11, however, do not include GDR-FRG trade. Given the relative importance of the Federal Republic of Germany in GDR's Western export market, we treat exports to the FRG in the following separate analysis.

Shipments of GDR goods to the FRG are treated by the FRG as inter-zonal trade rather than as foreign trade, and therefore, are free from import duties, tax on value added, and EC levies on agricultural commodities. Moreover, West Berlin's location in the heart of the GDR creates a substantial market for GDR deliveries, particularly of foodstuffs. Inter-German trade is conducted on a strictly bilateral basis. Finally, GDR's imports from the FRG are eligible for the special category of interest-free "swing" financing granted by the FRG only to the GDR to cover trade between the two countries. Funds available under the swing credit arrangement, however, are limited to a total of DM 850 million (about \$360 million). These combined factors make for a unique trade relationship between the GDR and the FRG.

The composition of GDR exports to the FRG differs most significantly from that offered to other Western trading partners in that large quantities of clothing, textiles, agricultural, and oil products are exported to the FRG. Except for livestock and meat, products in these groups do not appear in quantity in GDR exports to other I.W. countries, whose potential import restrictions provide added reasons for this difference. On the other hand, exports of chemical products and machinery, both of which are among top product groups shipped westward, account for a relatively small share of FRG imports from the GDR.

The outlook for continued and, indeed, increased GDR-FRG exchanges is good, and the relatively large share of GDR's exports to the I.W. going to the FRG will probably continue. Future economic progress in GDR's economy is to some extent dependent upon imports from the West and the FRG provides a convenient, favored source, given the preferential trading arrangement between the two countries. To pay for continued imports, and to service the already existing debt requirements, the GDR will seek to expand exports to the FRG. The ability of the GDR to increase supplies of marketable goods to its neighbor will however, in large part, determine the rate at which total trade between the two countries increases in future years.

## 3. PRODUCT DIVISION ANALYSIS OF EXPORTS TO 14 I.W. COUNTRIES

### *a. Chemicals*

Turning to analysis of the GDR's exports to the 14 I.W. countries (excluding FRG), GDR's top ranking export division in 1975 (see Table 10) was chemical elements and compounds (SITC 51). Since

1973 the dollar value of these exports more than doubled, and unlike the experience of the U.S.S.R. and every other East European country, deliveries of GDR's chemical elements and compounds maintained their strength in 1975, the year of lagging Western demand.

Future increases in exports of chemical products seem likely, based upon two factors. The first is that production expansion in the chemical industry is among top priorities in the current plan period; supplies should be augmented as output is slated to increase nearly 30% by 1980. The second factor motivating optimistic export projections is the relatively strong performance of chemical shipments during the recent Western recession, i.e., the absolute dollar value of GDR's chemical exports to the 14 I.W. countries did not decrease, although the rate of increase did slow. Assuming that GDR chemical supplies for export are adequate, recovered Western demand may open more new markets for GDR's chemicals and thereby expand already large markets.

Other intermediate goods exports such as iron and steel, fertilizers, and textile yarns—each contributing relatively small shares (6, 5, 4 percent respectively) to hard currency earnings from shipments to I.W. countries—may also be able to expand moderately, assuming good Western economic conditions.

#### *b. Manufactured goods*

The GDR's exports of finished manufactures have comprised over one-third of deliveries to the 14 I.W. countries (excluding FRG), and are spread among the following major product divisions (from Table 10): nonelectric machinery (SITC 71), miscellaneous manufactures such as toys, pianos, books, etc. (SITC 89), electric machinery (SITC 72), and transport equipment (SITC 73). Since 1973, changes in dollar value shipments of products in these commodities divisions have not been particularly noteworthy.

Due to the overall importance attached to the manufacturing sector (particularly capital goods) and because the GDR has been relatively successful in meeting planned goals, it can be expected that exports of manufactures to the 14 I.W. countries should at least continue at about the same pace as before. During the current plan period, production of machinery output, in particular, is projected to increase by about one-half, as the machine engineering sector is to receive top priority. Therefore, added supplies of machinery goods manufactures may be available for export to the fourteen I.W. countries. The extent to which these supplies can be absorbed by the I.W. depends in part on the degree to which the GDR is able to overcome quality, spare parts, and servicing shortcomings, and on the degree of recovery in Western economies.

#### *c. Meat and live animals*

The remaining noteworthy group of export commodities to the fourteen I.W. countries (excluding FRG) is that comprised of live animals (SITC 00) and meat (SITC 01). Exports of items in these two-product divisions contributed about 12% to hard currency earnings from the 14 I.W. in 1975. Deliveries of the GDR's livestock and

meat to the West have been steady and have not encountered the import restrictions which faced other East European countries' (Poland, Hungary, Romania) meat exports. This may be attributed to the fact that the GDR's meat exports have been swine meat, whereas the EC restrictions which curtailed Eastern deliveries were placed on beef shipments. It seems probable, therefore, that there will be a continuing market for GDR's livestock and meat exports to the West, but increases in future shipments, however, will likely be a function of GDR's supply availability.

#### 4. SUMMARY

In looking at GDR exports to the FRG on the one hand and exports to the remaining I.W. countries on the other, the GDR appears to offer a wide range of export commodities to the West when compared to other communist countries. In addition, it has capitalized on the special trade benefits accorded to it by its relationship with the FRG.

Given that the GDR economy is industrialized and the raw material base is limited, the GDR has the expressed goal of aiming to increase its exports of manufactured goods (particularly capital goods). How much the GDR can expand these shipments, however, is not clear. Past performance has pointed to considerable success in this direction, but in spite of the relative competitiveness of GDR manufactures on Western markets, at times they are still plagued by some of the quality, spare parts, and servicing inadequacies which have often characterized East European manufactured goods. Furthermore, if machinery exports in particular can increase, they will probably be marketable only in countries other than the FRG, whose own sophisticated manufacturing base is superior to that of the GDR. Finally, the GDR economy, like other East European economies, has already strained its production capacity. Future expansion in manufacturing capacity may in large part be dependent on productivity gains, which in turn depend to some degree on imports of Western technology.

On balance, while the GDR aims toward adjusting its export commodity structure in favor of capital goods manufactures, near term hard currency earnings from the West can be expected to be sustained by continued deliveries of chemicals, foodstuffs, light industry manufactures and oil products.

#### *D. Czechoslovakia*

##### 1. DATA HIGHLIGHTS

Czechoslovak exports to the I.W. increased 71% from 1972, to a 1975 total of nearly \$1.5 billion (see Table 12). While the composition has remained relatively constant, it differs significantly from that of the U.S.S.R. and Poland, showing fewer exports of primary products and a greater number of intermediate and manufactured goods. Together, intermediate and manufactured goods comprised 64.4% of 1975 exports to the I.W., while manufactures alone represented 30.8% of total.

TABLE 12.—CZECHOSLOVAKIA: EXPORTS TO INDUSTRIALIZED WESTERN COUNTRIES, 1972-75

(Amounts rounded to millions of U.S. dollars)

SITC Description	1972		1973		1974		1975	
	Amount	Per-cent	Amount	Per-cent	Amount	Per-cent	Amount	Per-cent
0 Food and live animals.....	\$89	10.2	\$110	9.3	\$102	7.3	\$120	8.1
1 Beverages and tobacco.....	4	.5	5	.4	5	.4	6	.4
2 Crude materials, inedible, except fuels.....	95	10.9	149	12.7	192	13.7	167	11.2
3 Mineral fuels, lubricants and related materials.....	76	8.8	94	8.0	136	9.7	207	13.9
4 Animal and vegetable oils and fats.....	3	.3	4	.4	5	.3	4	.3
5 Chemicals.....	52	6.0	78	6.6	122	8.7	100	6.7
6 Manufactured goods classified chiefly by material.....	266	30.6	355	30.3	422	30.1	400	26.9
7 Machinery and transport equipment.....	146	16.8	194	16.5	187	13.4	235	15.8
8 Miscellaneous manufactured articles.....	126	14.5	168	14.3	204	14.5	224	15.1
9 Commodities not elsewhere classified.....	12	1.4	17	1.4	28	2.0	24	1.6
<b>Total.....</b>	<b>869</b>	<b>100.0</b>	<b>1,172</b>	<b>100.0</b>	<b>1,401</b>	<b>100.0</b>	<b>1,487</b>	<b>100.0</b>
0-4 Primary products.....	267	30.7	362	30.9	439	31.4	504	33.9
5-6 Intermediate goods.....	319	36.7	433	36.9	544	38.8	500	33.6
7-8 Manufactured goods.....	272	31.3	361	30.8	391	27.9	459	30.8

Referring to Table 13, we note the following:

The top ranking product division, iron and steel (SITC 67) provided 11.3% of total 1975 earnings, but reflecting the Western recession, dollar value dropped one-seventh from 1974 levels. The second ranking product division, machinery other than electric (SITC 71), nevertheless advanced \$30 million over 1974 to a 1975 level of \$142 million and comprised 9.5% of the total.

Coke (SITC 3218) and coal (SITC 3214) were the number one and two rank export items, together combining to form the third ranking product division (SITC 32) which accounted for 9.2% of 1975 earnings from the I.W. Dollar earning increases in these items, which benefited heavily from price increases, represented about 24% of the total 1975 Czechoslovak gain over 1973 exports to the I.W.

Other significant gains were achieved in wood, lumber, and cork (SITC 24); clothing (SITC 84); and chemical elements and compounds (SITC 51).

Czechoslovak exports were more broadly diversified than those of the U.S.S.R. and Poland; the top five items in 1975 comprised only 17.5% of total, the top 50 provided 60% of earnings.

The top 50 export items in 1975 were similar to those exported in 1974, but included seven new items.

The top 50 ranking included 17 items from SITC 7 and 8; 1975 export values increased over 1974 in all but two of these items, though generally only marginally.

Compared to 1974, dollar value of 1975 exports advanced on 33 of the top 50 items, and declined on 17.

TABLE 13.—CZECHOSLOVAKIA: LEADING 1975 EXPORTS TO INDUSTRIALIZED WESTERN COUNTRIES

[Values in thousands of U.S. dollars]

SITC	Commodity	1975 rank	1975 value	Percent of total	Cumulative percent	1974 rank	1974 value	Percent of total	Cumulative percent	1973 value	Percent of total	Cumulative percent
1975 RANK ORDER OF PRODUCT DIVISIONS (2-DIGIT SITC)												
67	Iron and steel.....	(1)	168,720	11.3		(1)	195,394	13.9		160,595	13.7	
71	Machinery, other than electric.....	(2)	141,695	9.5		(3)	111,965	8.0		96,431	8.2	
32	Coal, coke, briquettes.....	(3)	137,299	9.2		(5)	91,038	6.5		61,584	5.3	
24	Wood, lumber, cork.....	(4)	104,477	7.0		(2)	124,366	8.9		88,457	7.5	
65	Textile yarn, fabrics.....	(5)	91,561	6.2	43.3	(4)	91,529	6.5	43.8	78,834	6.7	41.5
84	Clothing.....	(6)	80,119	5.4		(7)	71,245	5.1		57,101	4.9	
66	Nonmetallic mineral manufactures, n.e.s. <sup>1</sup> .....	(7)	65,670	4.4		(8)	60,824	4.3		52,429	4.5	
33	Petroleum and petroleum products.....	(8)	64,251	4.3		(12)	40,066	2.9		31,572	2.7	
51	Chemical elements and compounds.....	(9)	62,393	4.2		(6)	76,444	5.5		42,954	3.7	
73	Transport equipment.....	(10)	59,285	4.0	65.6	(10)	41,874	3.0	64.6	66,535	5.7	62.8
89	Miscellaneous manufactured articles, n.e.s. <sup>1</sup> .....	(11)	53,719	3.6		(9)	46,878	3.3		38,004	3.2	
85	Footwear.....	(12)	39,548	2.7		(11)	40,712	2.9		32,369	2.8	
72	Electrical machinery, apparatus and appliances.....	(13)	33,586	2.3		(13)	33,508	2.4		30,579	2.6	
05	Fruits and vegetables.....	(14)	31,226	2.1		(14)	28,510	2.0		29,444	2.5	
04	Cereals and cereal preparations.....	(15)	25,490	1.7	77.9	(18)	19,680	1.4	76.7	17,403	1.5	75.4
	Top 15 total.....		1,159,039	77.9			1,074,033	76.7		884,291	75.4	
	Total exports to industrialized Western countries.....		1,487,443				1,401,172			1,172,210		
1975 RANK ORDER OF ITEMS (5-DIGIT SITC)												
3218	Coke and semi-coke of coal.....	(1)	61,349	4.1		(2)	43,478	3.1		28,113	2.4	
3214	Coal (anthracite, bituminous).....	(2)	59,604	4.0		(4)	36,576	2.6		23,930	2.0	
67411	Iron/steel heavy plates, sheets.....	(3)	53,292	3.6		(3)	37,399	2.7		22,699	1.9	
24321	Lumber, sawn lengthwise (conifer).....	(4)	48,477	3.3		(1)	60,401	4.3		39,674	3.4	
7151	Machine tools for working metal.....	(5)	38,008	2.6	17.5	(5)	35,594	2.5	15.2	27,650	2.4	12.1
7125	Tractors.....	(6)	35,859	2.4		(12)	22,446	1.6		19,228	1.6	
85102	Footwear with soles of leather.....	(7)	32,214	2.2		(7)	33,382	2.4		27,909	2.4	
7321	Passenger motor cars.....	(8)	30,411	2.0		(17)	15,447	1.1		37,200	3.2	
84111	Men's and boys' outer garments.....	(9)	27,996	1.9		(9)	24,748	1.8		20,383	1.7	
3323	Distillate fuels.....	(10)	25,310	1.7	27.7	(18)	15,220	1.1	23.2	19,583	1.7	22.7
2421	Pulpwood (including broadleaved).....	(11)	23,730	1.6		(8)	24,845	1.8		15,869	1.4	
51212	Other hydrocarbons.....	(12)	21,648	1.5		(11)	22,507	1.6		6,936	0.6	

See footnotes at end of table.

TABLE 13.- CZECHOSLOVAKIA: LEADING 1975 EXPORTS TO INDUSTRIALIZED WESTERN COUNTRIES- Continued

SITC	Commodity	1975 rank	1975 value	Percent of total	Cumulative percent	1974 rank	1974 value	Percent of total	Cumulative percent	1973 value	Percent of total	Cumulative percent
0612	Refined beet and cane sugar	(13)	21,594	1.5	-----	(16)	16,205	1.2	-----	8,334	.7	-----
0482	Malt (including malt flour)	(14)	20,974	1.4	-----	(15)	16,677	1.2	-----	18,221	1.3	-----
65229	Other cotton fabrics	(15)	20,699	1.4	35.0	(10)	22,662	1.6	30.5	14,942	1.6	28.2
67311	Iron/steel wire rods	(16)	19,635	1.3	-----	(6)	34,169	2.4	-----	13,837	1.2	-----
6652	Glass tableware	(17)	19,288	1.3	-----	(14)	16,935	1.2	-----	14,248	1.2	-----
33291	Nonlubricating oils	(18)	18,341	1.2	-----	(39)	8,280	.6	-----	440	(?)	-----
3216	Lignite briquettes and lignite	(19)	16,340	1.1	-----	(28)	10,974	.8	-----	9,518	.8	-----
7221	Electric power machinery	(20)	14,107	.9	40.9	(22)	13,904	1.0	36.5	10,885	.9	32.4
3321	Motor spirit (gasoline)	(21)	14,100	.9	-----	(26)	11,329	.8	-----	5,628	.5	-----
05484	Hops	(22)	13,487	.9	-----	(23)	13,409	1.0	-----	14,308	1.2	-----
84112	Women's, girls', infants', outer garments	(23)	13,296	.9	-----	(31)	10,274	.7	-----	8,144	.7	-----
27621	Clay and similar refractory materials	(24)	13,293	.9	-----	(21)	14,033	1.0	-----	10,769	.9	-----
82109	Furniture and parts	(25)	13,037	.9	45.5	(30)	10,408	.7	40.8	9,170	.8	36.5
67271	Iron/steel coils	(26)	12,285	.8	-----	(19)	14,519	1.0	-----	20,444	1.7	-----
67251	Iron/steel blooms, billets, slabs	(27)	12,138	.8	-----	(13)	19,288	1.4	-----	9,147	.8	-----
71711	Spinning machines	(28)	12,119	.8	-----	(58)	5,891	.4	-----	5,024	.4	-----
67431	Iron/steel plates, sheets <3 mm	(29)	11,886	.8	-----	(27)	11,193	.8	-----	15,507	1.3	-----
24221	Sawlogs and veneer logs	(30)	11,412	.8	49.5	(20)	14,294	1.0	45.4	17,030	1.5	42.2
65691	Linens, textile fabric articles	(31)	10,564	.7	-----	(33)	9,410	.7	-----	9,235	.8	-----
67321	Iron/steel bars and rods	(32)	10,515	.7	-----	(25)	12,568	.9	-----	15,481	1.3	-----
6715	Other ferroalloys	(33)	10,340	.7	-----	(38)	8,432	.6	-----	5,831	.5	-----
8310	Travel goods, handbags etc.	(34)	10,013	.7	-----	(37)	8,454	.6	-----	6,977	.6	-----
89211	Printed books, pamphlets	(35)	9,586	.6	52.9	(35)	8,557	.6	48.8	7,117	.6	46.0
84143	Under garments, knitted, crocheted	(36)	8,902	.6	-----	(44)	7,818	.6	-----	5,845	.5	-----
81241	!!luminating glassware	(37)	8,660	.6	-----	(40)	8,264	.6	-----	7,510	.6	-----
6562	Tarpaulins, tents, awnings, sails	(38)	8,467	.6	-----	(50)	6,786	.5	-----	5,218	.4	-----
73291	Motorcycles	(39)	8,238	.6	-----	(43)	7,856	.6	-----	8,457	.7	-----
6782	Iron/steel tubes and pipes, seamless	(40)	8,189	.6	55.8	(24)	12,808	.9	51.9	11,166	1.0	49.3
84144	Outer garments, knitted, crocheted	(41)	8,137	.5	-----	(36)	8,455	.6	-----	7,509	.6	-----
6291	Rubber tires and tubes for vehicles	(42)	7,328	.5	-----	(48)	7,015	.5	-----	4,195	.4	-----
85101	Footwear with soles of rubber	(43)	7,253	.5	-----	(46)	7,191	.5	-----	4,353	.4	-----
6841	Aluminum and aluminum alloys, unwrought	(44)	7,192	.5	-----	(59)	5,399	.4	-----	6,616	.6	-----
82101	Chairs and other seats and parts	(45)	7,142	.5	58.3	(54)	6,222	.4	54.4	5,793	.5	51.7
5414	Opium alkaloids, cocaine, caffeine	(46)	6,831	.5	-----	(51)	6,750	.5	-----	5,968	.5	-----
0114	Poultry, killed or dressed	(47)	6,761	.5	-----	(52)	6,566	.5	-----	5,385	.5	-----
67501	Iron/steel hoop and strip	(48)	6,742	.5	-----	(32)	10,243	.7	-----	9,193	.8	-----
27624	Magnesite	(49)	6,442	.4	-----	(70)	4,629	.3	-----	3,470	.3	-----
2429	Poles, pilings, posts of wood	(50)	5,787	.4	60.4	(76)	4,259	.3	56.7	1,871	.2	53.9
Top 50 total			899,018	60.4	-----		794,169	56.7	-----	631,960	53.9	-----
Total exports to Industrialized Western countries			1,487,443	-----	-----		1,401,172	-----	-----	1,172,210	-----	-----

1 Not elsewhere specified.

2 Small amounts rounded to zero.

From Table 14 we note the following:

Except for the Federal Republic of Germany, which took 31.6% of the 1975 total, Czechoslovak exports were broadly diversified over the 15 I.W., with Japan taking the smallest (1.7%) share.

Austria, however, was the principal recipient of Czechoslovakia's two top earners, coke and anthracite coal, while the FRG took 96.5% of lignite exports to the I.W.

TABLE 14.—CZECHOSLOVAKIA: DOLLAR VALUE OF TOP 25 1975 EXPORTS TO THE INDUSTRIALIZED WEST AND PERCENT SHARE TAKEN BY EACH WESTERN COUNTRY

SITC	Export item	1975 rank	Dollar value (thousands)	Percent shares taken by industrialized Western countries															
				Canada	United States	Japan	Belgium/Luxembourg	France	Federal Republic of Germany	Italy	Netherlands	Austria	Norway	Sweden	Switzerland	United Kingdom	Denmark		
3218	Coke and semi-coke of coal.....	1	61,349						6.9			82.4	0.3	10.4					
3214	Coal (anthracite, bituminous).....	2	59,604				9.6		9.3	( <sup>1</sup> )	8.7	67.4		4.4	0.6		( <sup>1</sup> )		
67411	Iron/steel heavy plates and sheets.....	3	53,292	0.4			2.3	22.5	35.4	12.1	5.1	.1	9.4	.9	( <sup>1</sup> )	0.1	11.7		
24321	Lumber, sawn lengthwise.....	4	48,477				.5	8.1	18.7	21.5	14.3	4.4					32.6		
7151	Machine tools for working metal.....	5	38,008	14.7	7.8	8.8	3.5	5.0	7.8	7.3	3.2	2.3	10.3	11.5	.6	12.9	4.3		
7125	Tractors.....	6	35,859			3.2	3.8	40.4	4.8	7	3.6	.7	4.6	12.7	.8	18.1	5.5		
85102	Footwear, leather soled.....	7	32,214	10.9	12.9		3.7	1.9	11.7	4.1	5.1	.5	2.1	4.6	2.6	38.7	1.1		
7321	Passenger motor cars.....	8	30,411	( <sup>1</sup> )			3.4	3.5	17.2	11.7	10.0	5.6	1.4	3.7	.6	40.7	2.3		
84111	Men's, boys' outer garments.....	9	27,996	2.8	1.1		.3	4.9	47.5	.5	25.1	1.9	2.4	1.8	2.6	8.1	1.1		
3323	Distillate fuels.....	10	25,310						32.9						67.1				
2421	Pulpwood (including broadleaved).....	11	23,730				.1	10.1	40.3	20.5		39.1		( <sup>1</sup> )					
51212	Other hydrocarbons.....	12	21,648					( <sup>1</sup> )	62.7	13.8		4.8			3.4				
0612	Refined beet and cane sugar.....	13	21,594						58.3	1.2			19.6		19.0	1.9			
0482	Malt (including malt flour).....	14	20,974					46.2	21.0	1.9	2.5	1.8	3.2	1.1	15.8				
65229	Other cotton fabrics.....	15	20,699	7.9		1.4	.1	12.6	33.5	7.7	2.4	10.1	4.9	6.5	6.1	5.6	8.1		
67311	Iron/steel wire rods.....	16	19,635	37.9	5.1		.5		34.8	1.0	.4	2.6	3.4	11.2		1.8	1.2		
6652	Glass tableware.....	17	19,288	12.8		8.7	1.9	6.6	7.7	21.2	2.2	3.7	4.0	6.4	5.8	16.8	2.2		
33291	Nonlubricating oils.....	18	18,341						99.6			( <sup>1</sup> )			.4				
3216	Lignite briquettes, etc.....	19	16,340						96.5	.5		3.0							
7221	Electric power machinery.....	20	14,107		( <sup>1</sup> )	.7	1.5	1.2	25.1	34.6	10.0	6.7	3.8	7.8	2.4	2.3	3.8		
3321	Motor spirit (gasoline).....	21	14,100					34.7	14.3			50.6			.4				
05484	Hops.....	22	13,487		3.1	27.5	29.3	6.3	22.3	1.5	.4	7.9	5	( <sup>1</sup> )	.8	.3	( <sup>1</sup> )		
84112	Women's, girls' outer garments.....	23	13,296	.4	.3			8.5	70.7		10.0		2.7	1.2	.2	6.2			
27621	Clay and similar refractured metal.....	24	13,293				3.7	1.5	49.9	11.1	5.2	15.5	2.3	6.2	3.6		.9		
82109	Furniture and parts.....	25	13,037	3.9		( <sup>1</sup> )	1.9	10.2	15.1	.1	13.7	6.6	1.0	18.9	1.7	23.4	3.6		
Total exports to industrialized Western countries.....				1,487,443	3.1	2.3	1.7	3.4	7.0	31.6	8.5	5.8	12.9	2.5	5.2	4.4	8.9	2.7	
Total imports from industrialized Western countries.....				1,756,994	.6	3.0	2.5	3.6	9.0	38.7	6.9	5.1	10.9	1.3	4.3	6.0	6.4	1.7	

<sup>1</sup> Small amount, rounding to zero.

## 2. PRODUCT DIVISION ANALYSIS

*a. Intermediate and manufactured goods*

Czechoslovak industry, well developed before World War II and relatively spared from damage during the war, emerged into the post-war period with a considerable production and economic advantage over its East European neighbors. Czechoslovakia remains today a highly industrialized economy, with manufactured and intermediate goods providing the major portion (over 64% in 1975) of its exports to the I.W. However, it has become increasingly evident that Czechoslovakia's industry is now badly in need of modernization, a factor which has affected its performance in exporting to the West.

Czechoslovak officialdom appears painfully aware of the shortcomings of its industry. In an attack on the management of the metal-lurgy and engineering industries, Premier Lubomir Strougal pointed out that quality and technical performance of most products did not match that of their Western counterparts.<sup>16</sup> Citing a sample of metal-lurgy and engineering sectors' products (e.g., steel products, machine tools, industrial machinery, etc.) surveyed by a state testing institute, it was indicated that poor design, lack of innovation, and limited capacity pulled half of the C.S.S.R.'s products below the world average. Another fourth were reportedly found to be inaccurately dimensioned and shaped, while others were unsafe and could not be serviced properly. The conclusion was that these failings severely curtailed Czechoslovak competitiveness on the world market and depressed prices so far that some products earned so little convertible currency that it was not worth putting them on the market.

Additional shortfalls have ranged from incomplete packaging, to lengthy delivery times, to inadequate servicing. While these are problems common to many Soviet and East European manufactured products exports, they may be relatively more important to the Czechoslovaks, given their lack of a significant primary product export base and the resultant heavy reliance on exports of intermediate and manufactured goods.<sup>17</sup>

In a disclosed effort to restructure Czechoslovak industry between 1976 and 1980, there are plans for heavy investment in the "engineering" and chemicals sectors, giving testimony to a strategy of forcing a comeback for exports of capital goods and equipment, while also strengthening chemical and consumer goods capabilities. (It is noteworthy, however, that the planned industrial investment does not show significant departure from that, of the 1971-75 plan.) Part of this effort is expected to be supported by a call for \$3.5 billion in imports of Western technology and equipment. Emphasis is also being placed on purchases of carefully selected Western licenses, since the Czechoslovaks have accepted that a further significant improvement in their technical standards is beyond their own strength. There is also a new emphasis on cooperation agreements, although it does not appear that a significant number of these will be forthcoming, a conclusion that appears warranted by Czechoslovak hesitancy to au-

<sup>16</sup> Business Eastern Europe, September 24, 1976, pp. 297-298.

<sup>17</sup> Of the Soviet/EE group, only the G.D.R. has a higher portion of its exports to the I.W. in intermediate and manufactured goods (65.7% vs. 65.4% for Czechoslovakia). The G.D.R., however, has a specially favorable trading relationship with the Federal Republic of Germany, a newer industrial base, and perhaps, a somewhat lesser degree of the difficulties noted above.

thorize outlays for sizeable imports which would not immediately generate export revenue. In fact, Czechoslovak officials have retained their financially conservative posture by stating that the import drive will not mirror Poland's acceptance of a large debt to the West, and have clearly pointed to an intention of maintaining balance between imports and exports.

To summarize Czechoslovak manufactured goods export potential, it can be concluded that although recession in the West dampened recent demand for Czechoslovak manufactured goods, Western recovery cannot be expected to generate large increases in hard currency earnings from exports of intermediate and manufactured goods. Difficulties in increasing exports to the West stem largely from the low quality and outdated nature of many Czechoslovak manufactures. In the near term, therefore, it does not appear likely that there will be a noteworthy change in either the kinds or volume of intermediate or manufactured goods sales to the West. Whether a longer term comeback can indeed be achieved is uncertain, but appears to be largely a function of success of the C.S.S.R.'s investment and import strategy during the current plan period.

#### *b. Coal, wood*

Two groups of primary product (SITC 0-4) exports have been important to Czechoslovak earnings from the Industrialized West. The first of these is coal (SITC 32), which comprised roughly nine percent of hard currency dollar sales to the I.W. in 1975. Large future increases of hard currency coal exports, however, do not look promising.

After neglect of the coal industry during the 1960's and Czechoslovakia's focus on foreign sources for energy supplies, the current plan calls for a new energy-use strategy marked in part by a fallback on domestic production of solid fuels. In the past, Czechoslovakia was largely dependent upon cheap Soviet oil and gas, but recent price increases, coupled with the prospect of limited Soviet supplies, have led to questions about continued dependence on Soviet energy products. Hence, the renewed emphasis on production of coal. Domestic coal reserves, however, (when compared to a coal exporting country like Poland) are not especially plentiful. Furthermore, existent reserves are basically bituminous reserves which can be deployed for industrial consumption on the home market. Given these factors, it is unlikely that coal will be available in such supply that it can be exported to the West in sufficient quantity to provide substantial increases in hard currency earnings in the near term.

The other primary product group which has in the past been important to Czechoslovak earnings from the I.W. is wood and wood products (SITC 24). While depressed Western markets caused a decline in dollar value sales from 1974 levels, wood shipments nonetheless achieved fourth rank among exports by product division in 1975. Wood is perhaps the major plentiful raw material present in Czechoslovakia, as one-third of the country is forested. The Czechoslovaks have been attempting to maintain, if not increase, their timber reserves, and continued hard currency earnings from this group appear plausible. However, in setting the level of dollar earnings, Western economic conditions and price fluctuations will probably have more impact than production increases.

## 3. SUMMARY

It appears that Czechoslovakia's hard currency export potential is largely dependent on its ability to upgrade or modernize its manufactured goods industry. It further seems that imports from the West are the key to modernization. The Sixth Five-Year Plan's (1976-80) directives call for large industrial investment, including \$3.5 billion in technology and equipment imports from the West. Czechoslovak officials, however, are cautious about accumulating deficits vis-a-vis the West, and thus have called for imports which can be expected to be covered by exports. A dilemma is apparent. Management problems, which in part account for shortcomings in industrial performance, will likely take many years to cure. On balance, it seems clear that exports face a steep uphill climb before they can pay for the very imports which could make them competitive in the West.

*E. Romania*

## 1. DATA HIGHLIGHTS

Looking at the general composition of Romanian exports, (see Table 15), we find:

Romanian exports to the I.W. were \$1.4 billion in 1975, nearly double the 1972 level.

Petroleum exports profited heavily from price increases of recent years, with the dollar value of mineral fuels (SITC 3) increasing over 400% from 1972 levels to a 1975 total of \$354 million. This acceleration significantly increased the relative importance of mineral fuels in Romania's export commodity structure. By 1975, they accounted for one-fourth of total Romanian exports to the I.W.

Strong advances were also achieved, however, in exports of intermediate products and manufactured goods, which doubled over the 1972-75 period.

TABLE 15.—ROMANIA: EXPORTS TO INDUSTRIALIZED WESTERN COUNTRIES, 1972-75

[Amounts rounded to millions of U.S. dollars]

SITC Description	1972		1973		1974		1975	
	Amount	Per-cent	Amount	Per-cent	Amount	Per-cent	Amount	Per-cent
0 Food and live animals.....	\$167	23.0	\$234	23.1	\$117	8.6	\$227	15.8
1 Beverages and tobacco.....	3	.4	5	.4	5	.4	8	.6
2 Crude materials, inedible, except fuels..	109	15.0	137	13.5	112	8.3	106	7.4
3 Mineral fuels, lubricants and related materials.....	69	9.5	115	11.4	336	24.8	354	24.6
4 Animal and vegetable oils and fats.....	30	4.1	40	3.9	75	5.6	43	3.0
5 Chemicals.....	42	5.7	49	4.9	70	5.2	65	4.5
6 Manufactured goods classified chiefly by material.....	134	18.4	173	17.1	218	16.1	223	15.5
7 Machinery and transport equipment.....	32	4.5	50	5.0	71	5.2	92	6.4
8 Miscellaneous manufactured articles.....	135	18.6	205	20.3	258	19.1	313	21.8
9 Commodities not elsewhere classified.....	5	.7	2	.2	91	6.7	6	.4
Total.....	726	100.0	1,010	100.0	1,353	100.0	1,437	100.0
0-4 Primary products.....	378	52.1	529	52.4	645	47.7	738	51.4
5-6 Intermediate goods.....	175	24.2	222	22.0	289	21.3	288	20.0
7-8 Manufactured goods.....	167	23.0	255	25.3	329	24.3	405	28.2

Disaggregating and using Table 16 reveals several points:

Three petroleum products items (residual fuel oils, gasoline, distillate fuels) were the top ranking export items, together accounting for 23% of 1975 earnings from the I.W. As with the U.S.S.R. and Poland, increased oil prices benefited Romanian hard currency earnings. In fact, nearly 56% of Romanian export gains from the I.W. between 1973 and 1975 came in petroleum products, largely on the basis of price increases achieved during that period.

Fifteen of the 1975 top 50 items were intermediate goods and another 15 were manufactured items. Seven manufactures were clothing items, supporting \$149 million of 1975 clothing exports (SITC 84), and making clothing Romania's second ranking division among exports to the I.W.

Meat of swine (SITC 0113) was the fourth ranking export item. Together with other meat items (SITC 01) it provided 8.3% of 1975 exports to the I.W., making it the third ranking product division.

Two furniture items in the top 50 were the major export items in Romania's fourth ranking product division, furniture (SITC 82), which contributed 6.5% to 1975 exports to the I.W.

TABLE 16.—ROMANIA: LEADING 1975 EXPORTS TO INDUSTRIALIZED WESTERN COUNTRIES

[Values in thousands of U.S. dollars]

SITC	Commodity	1975 rank	1975 value	Percent of total	Cumulative percent	1974 rank	1974 value	Percent of total	Cumulative percent	1973 value	Percent of total	Cumulative percent
1975 RANK ORDER OF PRODUCT DIVISIONS (2-DIGIT SITC)												
33	Petroleum and petroleum products.....	(1)	349,448	24.3	-----	(1)	331,262	24.5	-----	112,252	11.1	-----
84	Clothing.....	(2)	152,078	10.6	-----	(2)	126,390	9.3	-----	103,157	10.2	-----
01	Meat and meat preparations.....	(3)	119,947	8.3	-----	(3)	95,026	7.0	-----	89,784	8.9	-----
82	Furniture.....	(4)	93,951	6.5	-----	(4)	72,688	5.4	-----	55,933	5.5	-----
67	Iron and steel.....	(5)	77,148	5.4	55.2	(5)	71,584	5.3	51.5	54,936	5.4	41.2
05	Fruits and vegetables.....	(6)	63,646	4.4	-----	(7)	64,317	4.8	-----	70,688	7.0	-----
24	Wood, lumber, and cork.....	(7)	57,186	4.0	-----	(8)	57,078	4.2	-----	85,396	8.5	-----
71	Machinery, other than electric.....	(8)	48,171	3.4	-----	(13)	31,603	2.3	-----	27,282	2.7	-----
85	Footwear.....	(9)	45,772	3.2	-----	(12)	39,671	2.9	-----	29,909	3.0	-----
68	Nonferrous metals.....	(10)	42,501	3.0	73.1	(9)	46,452	3.4	69.2	22,827	2.3	64.6
42	Fixed vegetable oils and fats.....	(11)	40,982	2.9	-----	(6)	71,357	5.3	-----	37,039	3.7	-----
65	Textile yarn, fabrics.....	(12)	40,376	2.8	-----	(11)	40,065	3.0	-----	45,026	4.5	-----
51	Chemical elements and compounds.....	(13)	32,682	2.3	-----	(10)	44,407	3.3	-----	19,570	1.9	-----
73	Transport equipment.....	(14)	28,136	2.0	-----	(14)	24,892	1.8	-----	13,904	1.4	-----
56	Fertilizers, manufactured.....	(15)	18,612	1.3	84.3	(25)	7,825	.6	83.1	17,482	1.7	77.8
	Top 15 total.....		1,210,636	84.3	-----		1,124,617	83.1	-----	785,185	77.8	-----
	Total exports to Industrialized Western countries.....		1,436,579	-----	-----		1,352,936	-----	-----	1,009,621	-----	-----
1975 RANK ORDER OF ITEMS (5-DIGIT SITC)												
3324	Residual fuel oils.....	(1)	155,042	10.8	-----	(2)	101,463	7.5	-----	22,708	2.2	-----
3321	Motor spirit (gasoline).....	(2)	90,461	6.3	-----	(4)	68,940	5.1	-----	11,011	1.1	-----
3323	Distillate fuels.....	(3)	82,814	5.8	-----	(1)	136,043	10.1	-----	66,955	6.6	-----
0113	Meat of swine, fresh, chilled, frozen.....	(4)	78,033	5.4	-----	(7)	44,378	3.3	-----	15,965	1.6	-----
82109	Furniture and parts.....	(5)	63,913	4.4	32.7	(5)	47,525	3.5	29.4	37,075	3.7	15.2
84111	Men's and boys' outer garments.....	(6)	49,320	3.4	-----	(9)	37,090	2.7	-----	26,304	2.6	-----
85102	Footwear with soles of leather.....	(7)	44,816	3.1	-----	(8)	39,087	2.9	-----	29,646	2.9	-----
4216	Sunflower seed oil.....	(8)	40,723	2.8	-----	(3)	71,061	5.3	-----	36,754	3.6	-----
24321	Lumber, sawn lengthwise (conifer).....	(9)	36,508	2.5	-----	(11)	32,816	2.4	-----	53,010	5.3	-----
67411	Iron/steel heavy sheets or plates.....	(10)	34,595	2.4	47.1	(6)	44,873	3.3	46.1	19,629	1.9	31.6
84112	Women's, girls, infants' outer garments.....	(11)	32,676	2.3	-----	(13)	23,663	1.7	-----	14,737	1.5	-----

See footnotes at end of table.

TABLE 16.—ROMANIA: LEADING 1975 EXPORTS TO INDUSTRIALIZED WESTERN COUNTRIES—Continued.

SITC	Commodity	1975 rank	1975 value	Percent of total	Cumulative percent	1974 rank	1974 value	Percent of total	Cumulative percent	1973 value	Percent of total	Cumulative percent
6841	Aluminum and aluminum alloys, unwrought.....	(12)	30,803	2.1	-----	(10)	35,643	2.6	-----	14,850	1.5	-----
84143	Under garments, knitted or crocheted.....	(13)	28,866	2.0	-----	(12)	25,401	1.9	-----	25,345	2.5	-----
82101	Chairs and other seats and parts.....	(14)	26,995	1.9	-----	(15)	22,255	1.6	-----	16,794	1.7	-----
7125	Tractors.....	(15)	24,251	1.7	57.1	(15)	15,658	1.2	55.1	14,629	1.4	40.2
0138	Other prepared or preserved meat.....	(16)	23,534	1.6	-----	(14)	23,341	1.7	-----	21,187	2.1	-----
0544	Tomatoes, fresh.....	(17)	19,649	1.4	-----	(17)	18,809	1.4	-----	21,984	2.2	-----
84144	Outer garments, knitted, crocheted.....	(18)	18,754	1.3	-----	(18)	16,931	1.3	-----	16,243	1.6	-----
5611	Nitrogenous fertilizers.....	(19)	17,681	1.2	-----	(33)	7,523	.6	-----	16,794	1.7	-----
6575	Carpets.....	(20)	15,279	1.1	63.7	(27)	9,832	.7	60.8	10,812	1.1	48.8
6712	Pig iron (including cast iron).....	(21)	14,778	1.0	-----	(29)	8,133	.6	-----	1,508	.1	-----
73289	Other parts for motor vehicles.....	(22)	11,837	.8	-----	(22)	11,986	.9	-----	9,276	.9	-----
0111	Meat of bovine animals.....	(23)	10,516	.7	-----	(16)	21,956	1.6	-----	47,185	4.7	-----
0545	Other fresh vegetables.....	(24)	10,509	.7	-----	(39)	6,849	.5	-----	7,527	.7	-----
7353	Ships and boats, not warships.....	(25)	10,460	.7	67.7	(31)	7,988	.6	65.0	7,450	(1)	55.3
24331	Lumber, sawn lengthwise (nonconifer).....	(26)	10,339	.7	-----	(21)	12,391	.9	-----	25,296	2.5	-----
33291	Nonlubricating oils.....	(27)	9,028	.6	-----	(20)	13,883	1.0	-----	1,32	(1)	-----
84113	Men's and boys' undergarments.....	(28)	8,493	.6	-----	(26)	10,316	.8	-----	7,881	.8	-----
7151	Machine tools for working metal.....	(29)	8,380	.6	-----	(46)	5,581	.4	-----	4,394	.4	-----
33102	Petroleum, partly refined.....	(30)	8,191	.6	70.8	(35)	7,236	.5	68.6	6,166	.6	59.6
51227	Phenols and phenol-alcohols.....	(31)	7,921	.6	-----	(24)	11,420	.8	-----	4,482	.4	-----
65229	Other cotton fabrics.....	(32)	7,406	.5	-----	(38)	6,893	.5	-----	6,511	.6	-----
7221	Electric power machinery.....	(33)	6,820	.5	-----	(48)	5,405	.4	-----	3,561	.4	-----
63142	Reconstituted wood.....	(34)	6,776	.5	-----	(43)	5,935	.4	-----	5,770	.6	-----
2312	Synthetic rubber.....	(35)	6,694	.5	73.3	(30)	8,098	.6	71.4	6,080	.6	62.3
8413	Leather apparel and accessories.....	(36)	6,273	.4	-----	(42)	5,962	.4	-----	6,066	.6	-----
68111	Silver, unwrought or partly worked.....	(37)	6,109	.4	-----	(—)	0	.0	-----	0	.0	-----
89922	Basketwork and wickerwork.....	(38)	5,894	.4	-----	(54)	4,624	.3	-----	3,322	.3	-----
0551	Vegetables, dehydrated.....	(39)	5,839	.4	-----	(37)	6,911	.5	-----	7,679	.8	-----
2421	Pulpwood (including broadleaved).....	(40)	5,656	.4	75.4	(55)	4,537	.3	73.1	2,234	.2	64.2
51212	Other hydrocarbons.....	(41)	5,654	.4	-----	(34)	7,316	.5	-----	4,048	.4	-----
6652	Glass tableware.....	(42)	5,539	.4	-----	(61)	3,870	.3	-----	2,853	.3	-----
63121	Plywood and veneer panels.....	(43)	5,506	.4	-----	(45)	5,834	.4	-----	6,369	.6	-----
0913	Lard and rendered pig fat.....	(44)	5,173	.4	-----	(47)	5,541	.4	-----	5,848	.6	-----
84142	Stockings, knitted or crocheted.....	(45)	5,100	.4	77.2	(50)	5,250	.4	75.1	4,141	.4	66.5
6783	Iron/steel tubes or pipes.....	(46)	5,092	.4	-----	(73)	2,673	.2	-----	1,986	.2	-----
67271	Iron/steel coils for rolling.....	(47)	4,979	.3	-----	(158)	9	(1)	-----	904	.1	-----
6782	Iron/steel tubes, pipes, seamless.....	(48)	4,923	.3	-----	(95)	1,710	.1	-----	3,118	.3	-----
1210	Tobacco, unmanufactured.....	(49)	4,767	.3	-----	(100)	1,468	.1	-----	2,186	.2	-----
0616	Natural honey.....	(50)	4,706	.3	78.9	(57)	4,278	.3	75.9	3,997	.4	67.7
	Top 50 total.....		1,134,071	78.9	-----		1,026,385	75.9	-----	683,312	67.7	-----
	Total exports to Industrialized Western countries.....		1,436,579		-----		1,352,936		-----	1,009,621		-----

† Small amount, rounding to zero.

Examining Table 17, we note the following:

The Federal Republic of Germany was Romania's principal I.W. trading partner, importing 28% of Romania's I.W. exports and supplying 35% of Romanian imports from the I.W. In 1975, the FRG imported 24 of Romania's top 25 export items.

Romanian exports among I.W. countries have been generally well diversified, although in 1975 Italy, took 73% of Romania's fourth ranking I.W. export item, swine meat (SITC 0113) and nearly 99% of meat of bovine animals (SITC 0111), the 23rd ranking item.

TABLE 17.—ROMANIA: DOLLAR VALUE OF TOP 25 1975 EXPORTS TO THE INDUSTRIALIZED WEST AND PERCENT SHARE TAKEN BY EACH WESTERN COUNTRY

SITC	Export item	1975 rank	Dollar value (thousands)	Percent shares taken by Industrialized Western countries													
				Canada	United States	Japan	Belgium/Luxembourg	France	Federal Republic of Germany	Italy	Netherlands	Austria	Norway	Sweden	Switzerland	United Kingdom	Denmark
3324	Residual fuel oils	1	155,042		34.2	7.0			3.5	7.9	20.6	2.0	2.7		22.1		
3321	Motor spirit (gasoline)	2	90,461		20.8		0.4	14.7	16.0	4.2	40.3		.4		1.1		
3323	Distillate fuels	3	82,814		2.8	.2	5.4	16.9	38.7	2.2	17.6		.2	3.1			12.8
0113	Swine meat, fresh, chilled, frozen	4	78,033				( <sup>1</sup> )	6.0	20.2	73.1	( <sup>1</sup> )		.5				
82109	Furniture and parts	5	63,913	1.7		.2	4.0	20.9	34.9	4	14.1	2.0	1.5	11.2		1.2	6.7
84111	Men's, boys' outer garments	6	49,320	2.1	3.2		6.4	7.3	14.8	28.3	12.2		.5	.2	4.4	21.1	
85102	Footwear, leather soled	7	44,816	8.7	18.4		2.2	21.2	33.9	.7	4.2		.1	.8	.3	8.5	.6
4216	Sunflower seed oil	8	40,723				.1	15.3	45.1		5.0	20.9		2.1	10.9		.5
24321	Lumber, sawn lengthwise	9	36,508				.1	13.0	44.9	41.9	( <sup>1</sup> )				( <sup>1</sup> )		
67411	Iron/steel heavy sheets, plates	10	34,595				.1	42.8	36.0	12.9	1.4	.1	.8	( <sup>1</sup> )		3.4	2.5
84112	Women's, girls' outer garments	11	32,676	4.6	3.9	.1	.6	5.0	64.0	8.5	11.7	.1	( <sup>1</sup> )		.5	.7	
6841	Aluminum, aluminum alloys, unwrought	12	30,803			51.1	7.4	2.5	16.1	12.5	4.5	2.1		1.8		2.0	
84143	Undergarments, knit	13	28,866	3.7	3.4		.8	45.5	25.7	5.2	1.0	4.2	.1	5	.3	8.3	1.4
82101	Chairs, seats and parts	14	26,995	1.7		2.4	3.2	12.0	33.1	4	13.3	2.5	2.1	14.1	2.2	9.9	3.1
7125	Tractors	15	24,251	9.2	33.5		.9	19.6	9.1	13.8		.1		.9	1.7	7.7	
0138	Other prepared or preserved meat	16	23,534		35.5	( <sup>1</sup> )		.1	39.5	.9	( <sup>1</sup> )						
0544	Tomatoes, fresh	17	19,649					3.8	40.9		( <sup>1</sup> )	21.3	( <sup>1</sup> )	2.6	16.9	13.8	.6
84144	Outer garments, knit	18	18,754	4.6	.4		( <sup>1</sup> )	11.9	49.3	5.4	15.5	1.1	1.0	2.5	1.4	6.7	.1
5611	Nitrogenous fertilizers	19	17,681				1.9	37.5	50.4	1.9	28.7			6.9			1.3
6575	Carpets	20	15,279	.1	2.5		8.2	9.6	13.3		5.7	.2	.2	2.1	5.2	24.1	.2
6712	Pig iron (including cast iron)	21	14,778			61.8			38.2								
73289	Other parts for motor vehicles	22	11,837	1.8			.1	86.9	8.6	1.2	.4	.3		.1	.2	.4	.1
0111	Meat of bovine animals	23	10,516				.6	.2	98.7			.1			.2		
0545	Other fresh vegetables	24	10,509					1.3	52.1	.3	1.8	22.5		6.9	12.1	2.5	.6
7353	Ships and boats, not warships	25	10,460						.5						.1		99.4
Total exports to Industrialized Western countries			1,436,579	1.3	9.3	3.2	1.9	12.1	28.1	17.0	7.5	4.5	.4	4.6	2.3	5.5	2.2
Total imports from Industrialized Western countries			1,893,258	3.2	10.0	7.2	3.1	10.7	35.0	11.3	3.2	4.6	.6	2.6	3.5	4.6	.5

<sup>1</sup> Small amount, rounding to zero.

## 2. PRODUCT DIVISION ANALYSIS

*a. Petroleum products*

As noted in Table 16, Romania's largest export product division has been petroleum products (SITC 33), with 1975 hard currency earnings from the fifteen Industrialized Western countries valued at \$349 million. The threefold increase from \$112 million in 1972 to \$349 million in 1975 was carried in large part by substantial increases in the world market price of oil. It is noteworthy that, although Romania has for many years had substantial oil reserves, it is expected that by 1976 it will have become a net importer of oil and oil products. This situation is based upon continuous depletion of existing reserves, without compensating discoveries and development of new deposits extensive enough to continue to supply growing domestic and export needs.

The prospects for sustaining or increasing petroleum hard currency earnings are a function of several factors, among which the availability of crude is foremost. Romania, whose own domestic production is virtually not increasing, imports oil from Middle Eastern and North African countries in large part on the basis of both barter deals and bilateral clearing arrangements. In turn, Romania refines crude oil and sells it to the West for hard currency. How long this sequence can continue may, in large part, be determined by Romania's ability to obtain contracts which provide for Romanian exports of technology, plant, and equipment, in return for oil. As previously negotiated barter deals and bilateral clearing arrangements come up for renewal, it is uncertain whether oil producing countries will be willing to renegotiate on similar terms. Algeria, Iran, Greece, Kuwait and some South American countries have been approached by the Romanian government for contracts which involve potential sources of oil for Romania. Perhaps the largest source may be Kuwait, where the "Constanta" project could provide Romania with substantial amounts of oil for refining and for processing into petrochemicals. This deal and others, however, are still in the negotiation stage, with actual output seemingly a long way off.

Romania has also been investing substantial capital in geological research aimed at finding new oil reserves in its territorial Black Sea waters. However, progress from research to actual output is slow and uncertain. "Gloria I", a large drilling platform built with American technical and financial aid has been launched, but as yet, producing wells have not been brought on stream.

In sum, it can be expected that hard currency earnings from oil shipments will continue in the very near term. However, since it is uncertain that large new supplies of crude will be available, it is not clear that there will be any substantial near term jump in earnings from petroleum product exports. Added to this less than optimistic prospect is the fact that fulfillment of the current Five-Year Plan, not even accounting for the implications of this year's earthquake, relies heavily on increasingly large domestic demands of energy supplies. Lastly, should the Romanians realize gains in hard currency earnings based on exports of petroleum products, these gains may indeed be outweighed by a rising oil import bill. This situation could arise if Romanians are unable to greatly expand what are essentially barter deals and/or fail to markedly increase domestic production.

*b. Meat and meat preparations.*

Meat and meat preparations have ranked among the most important Romanian exports to the West. Although hard currency earnings from this group have been slowly rising over the past three years, there has been a basic shift in the individual items comprising the group. Exports of bovine meat (SITC 0111) were drastically reduced in both 1974 and 1975, apparently as a result of the same EC restrictions which curtailed beef shipments from both Poland and Hungary. However, a nearly five-fold increase in processed meat of swine (SITC 0113) between 1973 and 1975 served to sustain the strength of hard currency meat shipments to the I.W.

How much meat exports will increase is uncertain, since success in the agricultural sector is an important element in maintaining and expanding livestock. Organizational difficulties, compounded by two flood and two drought seasons between 1970 and 1975, have frustrated agricultural sector performance and as a result created a constraint on the economy.

A further possible supply complication could arise out of consumer dissatisfaction over meat and other food shortages. If satisfying domestic demand assumes greater importance in the current plan period, this constraint may mitigate increases in meat exports in the near term.

*c. Manufactured goods*

Romania has made large investments in industrialization for several years, achieving a high growth rate in comparison to other economies, both East and West. On the basis of this modernization and upgrading, Romania expected to build its export trade. The areas indicated by our data (Table 16) have achieved export success are clothing (SITC 84), furniture (SITC 82), non-electric machinery indicated by our data (Table 16) that have achieved export success are clothing (SITC 84), furniture (SITC 82), nonelectric machinery (SITC 71), and footwear (SITC 85).

Several factors are key to future increases in exports of these items. Although planned 1976-1980 growth in light industry was set at roughly 50%, this does not imply a parallel increase in exports. Even if it is possible to increase the supply of manufactured goods available for export, these could increasingly run into I.W. import restrictions. Among Romanian export items which countries of the EC have attempted to limit on their market are footwear, bearings (non-electric machinery group), and furniture. If action is taken, Romanian exports of these goods could run into increasingly greater barriers on I.W. markets. A case in point where action has been finalized is the Romanian-EC textile export pact signed earlier this year. The accord, which stemmed from earlier Italian complaints against "dumping" of Romanian men's suits and trousers, requires that Romania provide advance information about the quality and quantity of textiles entering Italy directly, or indirectly, through other EC countries. The agreement is particularly significant because it is the first bilateral agreement signed between the European Communities (EC) and any of the CMEA countries. A second constraint which may work against marked increases in exports of light industry manufactures is that ability to supply these goods may be reduced by damage from the 1977 earthquake. Lastly, consumer demands have recently brought pressure on light industry output. Hence, goods for export may not be as abundant as they were in the past.

Aside from difficulties which may slow increases of hard currency earnings from clothing, footwear, and furniture, some gains in hard currency exports of bearings should be realized as output from two compensation arrangements comes on stream. Lipe Rollway, a U.S. firm, signed an agreement in 1975 for export of an entire roller bearing plant to Romania. Partial payment is to be based on sales of bearings in the United States and Western Europe. In addition, a West German company signed a similar agreement in 1976, which should also contribute to Romanian exports of bearings.

#### *d. Chemicals*

Development of export potential in the chemical industry has been noteworthy. The chemical industry's rate of growth has outpaced that of all other industrial branches, and according to 1976-80 plan directives should continue to do so in the future. Of particular interest is the increase in manufactured chemical fertilizer output. Expanded fertilizer production has been one of the primary objectives of the chemical industry, and will continue to be among top priorities in the current Five-Year Plan, with output planned to at least double during the 1976-80 period. In spite of growing domestic demand it appears that exports of manufactured fertilizers will be on the rise. Should the ambitious production plan be attained, the Romanians hope to achieve growing sales to the United States, Britain, and Western Europe on the strength of increased production, primarily of the nitrogeous-type fertilizers.

### 3. SUMMARY

In general, analysis indicates that Romanian ability to achieve sizeable near term increases in exports to the Industrialized West is uncertain. Basic to this conclusion is the apparent challenge in maintaining growth in petroleum products exports, together with the likelihood that increases in exports of light industry consumer products, such as clothing, will face difficulties stemming from Western import restrictions and increasing domestic demands.

Finally, at least for the current plan period, damage from the recent earthquake could threaten realization of planned objectives. Recalling the 1975 flood and Romanian resilience to that disaster, however, the earthquake alone may not be enough to preclude meeting planned goals, although the economic effects of damage will inevitably place strain on the economy as a whole.

#### *F. Hungary*

##### 1. DATA HIGHLIGHTS

Since Hungary is a small country, foreign trade contributes substantially to its economic development. One-third of Hungary's trade has been with the West, and since 1974 has resulted in substantial deficits. Hungary will need to increase its exports to the West not only to balance its accounts, but also to continue its economic development. It is noteworthy that, although Hungary's hard currency foreign trade is important to its economy, total volume of

exports to the I.W. has been small. At less than \$1.2 billion, this amount was equivalent to about 4 percent of its 1975 GNP of \$28. billion. Therefore, changes in export volumes that may seem small by Western standards can thus be relatively important to Hungary. In examining Hungary's export structure to the I.W. we note the following from Table 18:

Hungarian exports grew 57% from 1972 to 1975, a rate lower than that of the countries reviewed so far. Moreover, exports actually declined 7% from 1974 to 1975, largely on the basis of a decline in SITC 6 and SITC 9. (The miscellaneous SITC 9 category, unusually high in 1974, fell to a residual amount in 1975.) It is noteworthy that Hungary lacks the energy and raw material items that enjoyed such significant price increases between 1972 and 1975.

The general composition of Hungarian exports to the I.W. has altered somewhat. From a 1972 portion of 21.2%, manufactured goods (SITC 7-8) exports rose to 28.8% of the 1975 total, with 20.4% accounted for by miscellaneous manufactures (SITC 8, largely clothing and footwear). Less than a third of 1975 exports was food and live animals (SITC 0), down from about 43% in 1972 and due probably to 1974 EC beef restrictions. This group, however, was still a very important export source to I.W. earnings in 1975.

TABLE 18.—HUNGARY: EXPORTS TO INDUSTRIALIZED WESTERN COUNTRIES, 1972-75

[Amounts rounded to millions of U.S. dollars.]

SITC	Description	1972		1973		1974		1975	
		Amount	Per- cent	Amount	Per- cent	Amount	Per- cent	Amount	Per- cent
0	Food and live animals.....	\$316	42.3	\$402	37.9	\$251	19.9	\$383	32.9
1	Beverages and tobacco.....	8	1.0	11	1.1	13	1.0	16	1.3
2	Crude materials, inedible, except fuels.....	65	8.7	99	9.3	118	9.3	104	8.9
3	Mineral fuels, lubricants and related materials.....	13	1.8	19	1.8	27	2.2	25	2.1
4	Animal and vegetable oils and fats.....	11	1.5	15	1.4	22	1.7	18	1.5
5	Chemicals.....	33	4.5	52	4.9	83	6.6	81	6.9
6	Manufactured goods classified chiefly by material.....	134	18.0	220	20.7	258	20.4	196	16.7
7	Machinery and transport equipment.....	39	5.2	65	6.1	81	6.4	98	8.4
8	Miscellaneous manufactured articles.....	120	16.0	166	15.7	266	21.0	240	20.4
9	Commodities not elsewhere classified.....	8	1.0	12	1.1	146	1.5	14	1.2
	Total.....	746	100.0	1,060	100.0	1,264	100.0	1,173	100.0
0-4	Primary products.....	413	55.3	545	51.4	432	34.1	545	46.4
5-6	Intermediate goods.....	167	22.4	272	25.6	341	26.9	277	23.6
7-8	Manufactured goods.....	158	21.2	231	21.8	347	27.4	338	28.8

Disaggregating and using Table 19 reveals the following:

Hungarian exports are more widely diversified than those of any other country in our group except Czechoslovakia; the top five items providing only 17.9% of earnings, the top 25 items, 43%.

Clothing items (SITC 84) provided 14.5% of total earnings, meat (SITC 01) 13.7%, and live animals (SITC 00) seven percent.

TABLE 19.—HUNGARY: LEADING 1975 EXPORTS TO INDUSTRIALIZED WESTERN COUNTRIES

SITC	Commodity	1975 rank	1975 value	Percent of total	Cumulative percent	1974 rank	1974 value	Percent of total	Cumulative percent	1973 value	Percent of total	Cumulative percent
1975 RANK ORDER OF PRODUCT DIVISIONS (2-DIGIT SITC)												
84	Clothing.....	(1)	170,192	14.5	-----	(1)	152,705	12.1	-----	114,949	10.8	-----
01	Meat and meat preparations.....	(2)	160,192	13.7	-----	(2)	112,541	8.9	-----	114,839	10.8	-----
00	Live animals.....	(3)	82,479	7.0	-----	(3)	108,250	8.6	-----	181,767	17.2	-----
05	Fruits and vegetables.....	(4)	68,798	5.9	-----	(6)	63,556	5.0	-----	61,844	5.8	-----
67	Iron and steel.....	(5)	64,195	5.5	46.5	(4)	104,971	8.3	42.9	92,180	8.7	53.4
51	Chemical elements and compounds.....	(6)	55,968	4.8	-----	(7)	59,123	4.7	-----	32,724	3.1	-----
72	Electrical machinery, apparatus and appliances.....	(7)	53,500	4.6	-----	(10)	46,236	3.7	-----	39,794	3.8	-----
65	Textile yarn, fabric.....	(8)	41,388	3.5	-----	(8)	48,788	3.9	-----	39,899	3.8	-----
24	Wood, lumber, cork.....	(9)	36,705	3.1	-----	(11)	40,945	3.2	-----	34,010	3.2	-----
71	Machinery, other than electric.....	(10)	33,629	2.9	65.4	(13)	25,859	2.0	60.4	16,355	1.5	68.7
68	Nonferrous metals.....	(11)	28,775	2.5	-----	(9)	47,176	3.7	-----	41,180	3.9	-----
89	Miscellaneous manufactured articles.....	(12)	28,658	2.4	-----	(5)	75,909	6.0	-----	21,611	2.0	-----
29	Crude animal and vegetable materials.....	(13)	25,348	2.2	-----	(16)	23,877	1.9	-----	18,948	1.8	-----
69	Manufactures of metals, n.e.s. <sup>1</sup> .....	(14)	21,466	1.8	-----	(19)	17,810	1.4	-----	15,410	1.5	-----
33	Petroleum and petroleum products.....	(15)	21,398	1.8	76.1	(15)	24,179	1.9	75.3	15,939	1.5	79.4
Top 15 total.....			892,691	76.1	-----		951,925	75.3	-----	841,449	79.4	-----
Total exports to Industrialized Western countries.....			1,172,672	-----	-----		1,264,152	-----	-----	1,059,712	-----	-----
1975 RANK ORDER OF ITEMS (5-DIGIT SITC)												
0114	Poultry, killed or dressed.....	(1)	50,843	4.3	-----	(3)	45,138	3.6	-----	37,956	3.6	-----
84112	Women's, girls', infants', outer garments.....	(2)	49,979	4.3	-----	(4)	43,401	3.4	-----	28,859	2.7	-----
84111	Men's and boys', outer garments.....	(3)	41,178	3.5	-----	(5)	35,740	2.8	-----	28,634	2.7	-----
0113	Meat of swine, fresh, chilled, frozen.....	(4)	40,630	3.5	-----	(51)	6,476	.5	-----	4,851	.5	-----
84144	Outer garments, knitted, crocheted.....	(5)	27,316	2.3	17.9	(7)	22,749	1.8	12.1	17,426	1.6	11.1
0012	Sheep, lambs and goats.....	(6)	21,758	1.9	-----	(11)	19,901	1.6	-----	19,518	1.8	-----
51285	Heterocyclic compounds.....	(7)	20,749	1.8	-----	(16)	14,373	1.1	-----	8,541	.8	-----
0019	Live animals, n.e.s. <sup>1</sup> .....	(8)	19,274	1.6	-----	(12)	17,995	1.4	-----	10,969	1.0	-----
0011	Bovine cattle.....	(9)	19,034	1.6	-----	(2)	47,462	3.8	-----	133,086	12.6	-----
0138	Other prepared or preserved meat.....	(10)	17,789	1.5	26.3	(20)	13,260	1.0	21.1	10,513	1.0	28.3
01189	Meat and edible offals.....	(11)	17,190	1.5	-----	(25)	11,338	.9	-----	8,232	.8	-----
7292	Electric lamps.....	(12)	16,412	1.4	-----	(21)	13,070	1.0	-----	14,075	1.3	-----
0134	Sausages.....	(13)	15,286	1.3	-----	(17)	14,286	1.1	-----	10,103	1.0	-----

See footnotes on following page.

TABLE 19.—HUNGARY: LEADING 1975 EXPORTS TO INDUSTRIALIZED WESTERN COUNTRIES—Continued

SITC	Commodity	1975 rank	1975 value	Percent of total	Cumulative percent	1974 rank	1974 value	Percent of total	Cumulative percent	1973 value	Percent of total	Cumulative percent
6841	Aluminum and aluminum alloys, unwrought.....	(14)	15 265	1.3	-----	(8)	22 585	1.8	-----	14 835	1.4	-----
11212	Wine of fresh grapes.....	(15)	14 752	1.3	33.0	(23)	12 074	1.0	26.9	10 017	.9	33.7
6712	Pig iron (including cast iron).....	(16)	13 646	1.2	-----	(6)	27 059	2.1	-----	11 316	1.1	-----
8413	Leather apparel and accessories.....	(17)	13 426	1.1	-----	(22)	12 916	1.0	-----	11 249	1.1	-----
4216	Sunflower seed oil.....	(18)	13 307	1.1	-----	(13)	16 832	1.3	-----	9 700	.9	-----
85102	Footwear with soles of leather.....	(19)	12 821	1.1	-----	(24)	11 441	.9	-----	9 186	.9	-----
2218	Oilseeds, nuts, kernels.....	(20)	12 248	1.0	38.6	(35)	9 469	.7	33.0	5 966	.6	38.2
51365	Aluminum oxide and hydroxide.....	(21)	12 161	1.0	-----	(30)	10 059	.8	-----	7 656	.7	-----
08112	Fodder roots, hay, lupines.....	(22)	11 346	1.0	-----	(26)	11 025	.9	-----	5 461	.5	-----
0913	Lard and rendered pig fat.....	(23)	10 697	.9	-----	(27)	10 683	.8	-----	2 038	.2	-----
82101	Chairs and other seats and parts.....	(24)	10 261	.9	-----	(33)	9 609	.8	-----	6 490	.6	-----
0013	Swine.....	(25)	10 126	.9	43.3	(31)	9 985	.8	37.1	3 523	.3	40.6
84143	Undergarments, knitted, crocheted.....	(26)	9 971	.9	-----	(37)	9 007	.7	-----	4 804	.5	-----
0250	Eggs.....	(27)	9 341	.8	-----	(28)	10 428	.8	-----	4 394	.4	-----
29196	Birds' feathers.....	(28)	9 234	.8	-----	(36)	9 357	.7	-----	7 903	.7	-----
84113	Men's and boys' under garments.....	(29)	9 188	.8	-----	(29)	10 338	.8	-----	8 031	.8	-----
0111	Meat of bovine animals.....	(30)	9 062	.8	47.3	(14)	15 217	1.2	41.4	34 643	3.3	46.2
24331	Lumber, sawn lengthwise (nonconifer).....	(31)	9 031	.8	-----	(19)	13 863	1.1	-----	11 942	1.1	-----
3324	Residual fuel oils.....	(32)	8 821	.8	-----	(49)	6 865	.5	-----	6 142	.6	-----
0545	Other fresh vegetables.....	(33)	8 409	.7	-----	(42)	7 927	.6	-----	9 506	.9	-----
7151	Machine tools for working metal.....	(34)	7 876	.7	-----	(55)	5 945	.5	-----	3 439	.3	-----
67341	Iron/steel angles, shapes, sections, >80 mm.....	(35)	7 824	.7	50.8	(18)	13 898	1.1	45.2	13 896	1.3	50.5
6782	Iron/steel tubes and pipes.....	(36)	7 801	.7	-----	(44)	7 388	.6	-----	7 295	.7	-----
0542	Beans, peas, lentils.....	(37)	7 720	.7	-----	(47)	7 078	.6	-----	7 322	.5	-----
67271	Iron/steel coils for rolling.....	(38)	7 662	.7	-----	(82)	3 550	.3	-----	7 030	.7	-----
72501	Domestic refrigerators, electric.....	(39)	7 528	.6	-----	(54)	6 000	.5	-----	1 652	.2	-----
2411	Fuel wood and wood waste.....	(40)	7 485	.6	54.1	(69)	4 809	.4	47.5	4 721	.4	52.9
0616	Natural honey.....	(41)	7 443	.6	-----	(56)	5 834	.5	-----	5 942	.6	-----
24321	Lumber, sawn lengthwise (conifer).....	(42)	7 384	.6	-----	(34)	9 492	.8	-----	8 944	.8	-----
65229	Other cotton fabrics.....	(43)	7 295	.6	-----	(32)	9 957	.8	-----	8 922	.8	-----
67351	Iron/steel angles, shapes, sections, <80 mm.....	(44)	7 124	.6	-----	(38)	8 883	.7	-----	7 400	.7	-----
0551	Dried vegetables.....	(45)	7 090	.6	57.2	(57)	5 796	.5	50.7	6 331	.6	56.5
51212	Other hydrocarbons.....	(46)	6 919	.6	-----	(33)	6 029	.5	-----	1 769	.2	-----
7221	Electric power machinery.....	(47)	6 778	.6	-----	(60)	5 743	.5	-----	3 401	.3	-----
0015	Horses, asses, mules and hinnies.....	(48)	6 522	.6	-----	(41)	8 172	.6	-----	8 713	.8	-----
84201	Articles of fur skins.....	(49)	6 400	.5	-----	(46)	7 139	.6	-----	7 281	.7	-----
65691	Linens and textile fabric articles.....	(50)	6 389	.5	60.0	(40)	8 499	.7	53.5	6 726	.6	59.1
Top 50 total.....			703 791	60.0	-----		676 140	53.5	-----	626 349	59.1	-----
Total exports to Industrialized Western countries.....			1 172 672	-----	-----		1 264 152	-----	-----	1 059 712	-----	-----

<sup>1</sup> Not elsewhere specified.

As has been the case with each of the East European countries covered in this paper, Table 20 shows the Federal Republic of Germany to be Hungary's major trading partner, taking 31.2% of its 1975 exports to the I.W. Italy, however, imported predominant portions of several items of meat and live animals, absorbing 18.3% of Hungarian exports of all products to the I.W.

TABLE 20.—HUNGARY: DOLLAR VALUE OF TOP 25 1975 EXPORTS TO THE INDUSTRIALIZED WEST AND PERCENT SHARE TAKEN BY EACH WESTERN COUNTRY

SITC	Export item	1975 rank	Dollar value (thousands)	Percent shares taken by Industrialized Western countries													
				Canada	United States	Japan	Belgium/Luxembourg	France	Federal Republic of Germany	Italy	Netherlands	Austria	Norway	Sweden	Switzerland	United Kingdom	Denmark
0114	Poultry, killed or dressed	1	50,843			0.7	( <sup>1</sup> )	2.0	55.5	8.4	( <sup>2</sup> )	15.6		( <sup>1</sup> )	17.6		
84112	Women's, girls', outer garments	2	49,979	0.1	0.2	.1	0.5	2.8	71.0	.5	20.8		1.0	0.9	.7	1.0	0.4
84111	Men's, boys', outer garments	3	41,178	.3	.3		4.9	30.2	17.2		31.2		.6	4.4	3.5	11.1	.3
0113	Swine meat, fresh, chilled, frozen	4	40,630				6.9	18.3	.8	72.1	( <sup>1</sup> )	.6		1.3	.1		
84144	Outer garments, knitted, etc.	5	27,316	.7	.3		.3	2.6	66.1	.8	22.9	.2	1.5	.6	.7	2.6	.6
0012	Sheep, lambs, goats	6	21,758					7.0	( <sup>1</sup> )	93.0		( <sup>1</sup> )					
51285	Heterocyclic compounds	7	20,749	.5		9.8	10.1	5.6	28.3	4.3	1.2	9.4	.1	8.5	4.8	1.6	15.8
0019	Live animals, n.e.s. <sup>2</sup>	8	19,274					2.9		96.8		.1			.3		
0011	Bovine cattle	9	19,034				.3	.3	7.2	90.4	1.9	( <sup>1</sup> )					
0138	Other prepared or preserved meat	10	17,789	.1	70.1	( <sup>1</sup> )		.1	23.1	.1	2.3	.4	.1	2.1	.4	1.3	
01189	Meat and edible offals	11	17,190				1.3	4.7	18.6	65.6	1.1	2.4		.3	6.0		
7292	Electric lamps	12	16,412	.1	10.6	1.2	5.4	8.1	22.4	14.2	2.7	3.0	1.2	12.9	2.0	11.7	4.5
0134	Sausages	13	15,286				.3	1.7	81.6	.5	1.6	7.1		3.6	1.6	2.0	
6841	Aluminum and aluminum alloys	14	15,265			10.6	2.3	11.3	28.7	8.3	.1	28.0	.1	1.1	9.6		
11212	Wine of fresh grapes	15	14,752	12.2	2.0	.4	.5	.2	42.9	.6	.6	15.2	2.3	5.3	7.1	7.6	3.0
6712	Pig iron (including cast iron)	16	13,646		67.6					14.2		16.8		1.4			
8413	Leather apparel and accessories	17	13,426	13.5	1.0	.4	1.9	2.1	26.8	.7	15.2	5.7	2.3	12.1	8.6	8.0	1.8
4216	Sunflower seed oil	18	13,307						.6	1.1		51.6			46.7		
85102	Footwear, leather soled	19	12,821	.6	1.3		6.9	42.8	17.7	.8	3.9	2.5	.1	2.6	.6	19.7	.5
2218	Oilseeds, nuts, kernels	20	12,248			.6	.5	2.6	66.5	15.7	1.4	8.9		.1	3.5		.3
51365	Aluminum oxide and hydroxide	21	12,161						.1	.2		99.7					
08112	Fodder roots, hay, lupines	22	11,346			( <sup>1</sup> )		( <sup>1</sup> )	60.7	27.8	( <sup>1</sup> )	9.5			.5		1.4
0913	Lard and rendered pig fat	23	10,697				22.2		5.6	12.4	28.9	2.9			( <sup>1</sup> )	28.1	
82101	Chairs and other seats, parts	24	10,261	3.1		.2	5.7	18.9	15.5	.4	15.8	3.7	2.7	20.3	3.4	7.3	3.2
0013	Swine	25	10,126						.2	85.7		14.1					
	Total exports to Industrialized Western countries		1,172,672	1.3	3.0	.9	2.2	7.9	31.2	18.3	5.8	11.9	1.3	4.7	4.4	5.0	2.3
	Total imports from Industrialized Western countries		1,753,285	.4	4.3	1.8	2.6	9.4	32.7	10.8	4.9	15.4	.5	4.3	5.9	5.5	1.5

<sup>1</sup> Small amount, rounding to zero.

<sup>2</sup> Not elsewhere specified.

## 2. PRODUCT DIVISION ANALYSIS

### *a. Meat and live animals, fruits, vegetables*

Among Hungary's top ranking exports to the Industrialized West were foodstuffs—meat and meat preparations (SITC 01), live animals (SITC 00), fruits and vegetables (SITC 05). These commodities, and others based on agricultural production, accounted for roughly one-third of Hungary's I.W. hard currency sales in 1975.

Foodstuffs exports have been attributed to successes in the agricultural sector, where production capacity was augmented between 1971 and 1975. During these years Hungarian investment in agriculture reflected increased mechanization, construction of storage facilities, and extensive application of chemical fertilizers. Widespread fertilizer usage is one of the main reasons for considerably higher yields of grains, which has helped to make Hungary a net grain exporter.

The 1976–80 plan period calls for major investments in development of the food processing industry. Funds are earmarked for building meat packing plants, canning plants, and refrigerated warehouses. In addition, Hungarian officials have shown interest in Western co-operation agreements which could further enhance Hungarian capabilities in highly processed agricultural output.

Although potential Hungarian export ability in fresh and preserved meats, vegetables, and fruits may very well increase in the next few years, it is uncertain whether there will be an expanding Western market for these commodities. The countries of the European Communities (EC), which by virtue of geographic proximity have been primary consumers of Hungarian food exports, have clearly expressed a goal of agricultural self-sufficiency. What can happen when the EC applies protectionist restrictions is illustrated by the 1974 restrictions on imports of beef. Among affected Hungarian exports were shipments of bovine cattle (SITC 0011). Whereas in 1973 that item alone constituted a sizeable \$133 million and 12.6% of total exports to the I. W. countries (See Table 19), by 1975 it had plummeted to a mere \$19 million and 1.6% of the total. The same restrictions also severely curtailed Polish and Romanian exports of bovine cattle. Thus, unless hard currency markets for foodstuffs exports can somehow be expanded, foodstuffs may not bring the increased earnings expected from an enlarged export capacity.

### *b. Chemicals, iron and steel, aluminum*

Three groups of intermediate goods which appear to have near term hard currency export potential are chemicals, iron and steel, and aluminum.

Growth in the chemical industry has consistently been the most rapid of all Hungarian industrial sectors. Investments between 1976–80, moreover, are to expand over those allotted during the first half of the decade.

During 1971–75 plan period, the chemical industry made substantial gains in development of agricultural chemicals, pharmaceuticals, and petrochemicals. Current planned goals indicate a continued emphasis on pharmaceuticals, with even greater stress on petrochemicals,

which should offset a diminished importance assigned to agricultural fertilizers.

The development of facilities at Leninvaros (an effort which has and will continue to spearhead the petrochemical industry's production growth) came on stream in the mid-seventies, producing ethylene and propylene. By 1978, additional capacity is expected to be available with production of PVC (polyvinylchloride), which in part, is intended for Western markets. The Leninvaros plant, however, is far from reaching full capacity. Development of the petrochemical industry is a very long range project for which the Hungarians are continuing to seek Western cooperation.

Within the pharmaceutical branch, Hungary has had significant production capability for many years and has reached a level where roughly one-third of pharmaceutical output is exported for hard currency. As yet, Western countries do not permit dosage products on their markets, but do allow purchases of intermediates for domestic preparation. It seems likely that the desire for Western cooperation (which Hungary would like to see in the near term for the pharmaceuticals branch) is in large part motivated by a search for marketing benefits and, if successful, could provide increased exports of these items by 1980.

The 1975 decline in hard currency chemical exports from 1974 levels (see Table 19) can be attributed in large part to slackened demand on recession troubled Western markets. As the economies of the Industrialized West begin to recover, however, sales of these items may increase, particularly in light of the export drive which the Hungarians expect will double hard currency chemical earnings by 1980. Given the broad spectrum of commodities within any chemical industry, it is less likely that chemical goods will encounter the export restrictions which have often been seen to prevail among items in the food products group.

Ranking fifth among product divisions exported by Hungary to the Industrialized West in 1975, iron and steel (SITC 67) shipments contributed nearly six percent to total hard currency earnings. The substantial decline in 1975 dollar value receipts from the high 1974 levels also can be attributed to slackening Western demand.

Investments earmarked to augment future production levels of iron and steel are to include a new coking plant and a new converter for the Lenin Iron and Steel Works. Assuming that demand for these commodities strengthens with Western recovery, earnings from iron and steel shipments could also rise through 1980.

Another commodity of interest in the intermediate goods group is aluminum. Production of this non-ferrous metal is based upon bauxite, the only mineral found in Hungary on a large scale. Under an agreement which runs through 1980, Hungary turns over large quantities of alumina (extracted from bauxite) to the U.S.S.R. for smelting. The processed aluminum is then returned to Hungary. In an effort to broaden domestic aluminum production capacity, Hungary is investing in expansion of aluminum processing facilities for which, once again, Western cooperation is being sought. Although aluminum exports to the West have been moderate (see Table 19), they could increase in importance if efforts to expand domestic production are successful.

*c. Manufactured goods*

Hungarian hard currency exports of manufactured goods to the I. W. have been dominated by clothing (SITC 84), whose shipments were particularly strong in the last few years. Clothing ranked as the top commodity division exported in both 1974 and 1975 (see Table 19) and contributed 14.5% to the value of 1975 hard currency earnings from the I. W. Sales of electric machinery (SITC 72) were the second largest manufactured goods product division export but comprised only 4.6% of the value of 1975 exports to the Industrialized West.

Emphasis during the 1976-80 plan period is on modernizing and upgrading existing production capacity in clothing and on diversifying the commodity range of manufactures which can be offered on Western markets. Contributing to this end will be the 28% increase in industrial investment over the previous plan; industrial investment is to account for 40% of total investment in the economy.

The footwear industry is one in which Hungary has been successful in acquiring Western technology and thereby creating a potential export base. In a deal signed with the U.S. firm Katy Industries, Inc., Hungary imported just over \$3 million in machinery, equipment, and technology. Under terms of the agreement, women's shoes are to be produced and exported to Katy Industries' sales network in the United States. Furthermore, the acquisition of U.S. technology has provided Hungary with good prospects of marketing footwear in other Western countries. However, one cannot ignore the possibility of Western countries placing restrictions on imports of this commodity.

Hungarian high technology items such as transport equipment and measuring and controlling instruments have not appeared in significant volume on Western markets. During the current plan, however, Hungary hopes to begin exporting commodities within these classifications. The Raba-Steiger deal, signed in 1974 and extended in 1976, has provided added capability in the Hungarian transport sector. The accord calls for assembly and manufacture of tractors by Hungary (Raba) based on Steiger technology and using Steiger components. In return, Steiger is to import tractor axles produced by Raba, which has opened a market for Hungarian production of these components and will increase their exports during the current plan period. Another advantage to Hungary is that it has acquired Steiger technology for production of tractors which could be competitive on Western markets, particularly the United States. (Steiger tractors are not suitable for use on the small farms of Western Europe).

Hungary would also like to export buses to the West. Hungary's Ikarus Body and Coach Building Works boasts up-to-date technology and is among the biggest bus factories in Europe. Although Hungary has been a primary supplier of buses to Eastern Europe for many years, it has not yet been able to penetrate the Western market to any large degree, although exports to the Federal Republic of Germany, Austria and Sweden have been rising. Whether sales to the West can increase to a large enough degree in the next few years to make buses a significant export item remains to be seen.

For some time, Hungary has been aggressively developing the technical standards of its instruments industry, in part through domestic investments, which have been augmented by purchases of Western licenses and conclusion of cooperation agreements. The first joint venture agreement with a Western company was finalized in 1976 between Corning Glass and Radelkis. The newly formed company, Radelcor (in Budapest), is to produce blood gas analyzers which will be competitive on Western markets. This is only one of a number of cooperation agreements which Hungary would like to use as vehicles for expanded export capacity of scientific equipment.

In sum, Hungarian efforts and successes in developing manufactured goods sales to the West offer the possibility of increased future hard currency earnings. However, expansion of higher technology goods exports still presents a challenge, with much depending on the degree to which Western firms are willing to participate in cooperation agreements that would assist both Hungarian production and Hungarian marketing in the West. Furthermore, the possibility of Western restrictions on imports of manufactured goods (particularly light industry) cannot be ignored.

### 3. SUMMARY

During the current plan period Hungarian foreign trade is slated to grow faster than the economy as a whole. Trade is to shift in favor of the West, (particularly LDCs), with Hungary's exports increasing faster than its imports. Exports to LDCs are expected to increase faster than deliveries to the developed West, since manufactured goods are more marketable among less developed countries than among I.W. countries.

Factors motivating planned foreign trade goals include the very large deficits vis-a-vis the West incurred in both 1974 and 1975, and Hungary's desire to restructure plus expand its industrial capacity—a goal which is to be attained with the help of Western technology, imported through licenses, plant, and equipment. To service its debt and allow for continued imports, Hungary must significantly increase its hard currency exports.

Barring increased Western import restrictions, Hungary will probably be able to sustain its shipments of foodstuffs commodities, which alone have comprised roughly 30% of total hard currency earnings. Planned export capability increases in manufactured goods could be frustrated by difficulties in penetrating Western markets, and success could again be tempered by increased Western import barriers. To date, Western anti-dumping charges have already been issued against clothing, light bulbs and footwear.

In its turn toward expanding export capacity of higher technology items, Hungary has eagerly sought Western cooperation. Despite difficulties encountered in negotiating cooperation contracts with Western firms which to some degree are hesitant about entering the small Hungarian market, some significant deals have been signed (Katy, Steiger), and can be expected to contribute to Hungarian export capabilities in the near term. Others which may be concluded

in the current plan probably could not contribute significantly to hard currency earnings until after 1980. However, hard currency earnings could show longer term improvement.

Finally, one cannot ignore the business-oriented outlook of Hungarian officials who have often been more financially and administratively innovative in their approach to increasing hard currency sales than their counterparts in other East European countries. Although it is difficult to measure the degree to which these will contribute to increased earnings, they serve to emphasize the importance attached to increases in hard currency exports.

### *G. Bulgaria*

#### 1. DATA HIGHLIGHTS

Of all East European countries, Bulgaria's exports to the I.W. have been the smallest. Examination of data presented in Tables 21, 22 and 23 reveals the following:

Bulgarian exports to the I.W. (see Table 21) in 1975, at \$318 million were less than five percent of those of the Soviet Union. The 1975 total was up 31% from 1972, but down 10% from 1974. The bulk of the slippage from 1974 levels was accounted for by a \$43 million decrease in exports of manufactures by chief materials (SITC 6), principally iron and steel (SITC 67) and non-ferrous metals (SITC 68).

Food and live animals (SITC 0) exports were important to Bulgaria, providing 31% of the 1975 total compared to nearly 39% in 1972. At 42.5% of the 1975 total, manufactured and intermediate goods (SITC 5-8) held virtually the same share as in 1972.

Tobacco (SITC 1210) was the single most important export item, providing 13.8% of the 1975 total, but several food items combined to make fruits and vegetables (SITC 05) the single largest export division (see Table 22). Various clothing items (SITC 84) combined to provide 10.2% of 1975 earnings while iron and steel (SITC 67) ranked fourth with a contribution of 8.6% to the total.

The Federal Republic of Germany has been Bulgaria's number one trading partner (see Table 23), taking nearly 30% of its exports to the I.W. in 1975 and providing 40% of Bulgaria's imports from I.W. The United States, however, took by far the largest share (over 39%) of tobacco, Bulgaria's major export item. Italy was also a major market for a number of Bulgarian food and manufactures exports.

TABLE 21.—BULGARIA: EXPORTS TO INDUSTRIALIZED WESTERN COUNTRIES, 1972-75

[Amounts rounded to millions of U.S. dollars]

SITC	Description	1972		1973		1974		1975	
		Amount	Per- cent	Amount	Per- cent	Amount	Per- cent	Amount	Per- cent
0	Food and live animals.....	\$94	38.7	\$118	36.1	\$63	18.0	\$100	31.3
1	Beverages and tobacco.....	20	8.0	24	7.4	33	9.2	52	16.3
2	Crude materials, inedible, except fuels..	21	8.8	28	8.5	31	8.7	19	6.1
3	Mineral fuels, lubricants and related materials.....	1	.2	2	.7	5	1.4	6	1.8
4	Animal and vegetable oils and fats.....	3	1.1	5	1.6	9	2.6	3	.9
5	Chemicals.....	13	5.2	19	5.8	27	7.6	16	5.1
6	Manufactured goods classified chiefly by material.....	45	18.4	68	20.8	97	27.6	54	17.1
7	Machinery and transport equipment.....	14	5.7	18	5.5	26	7.4	27	8.6
8	Miscellaneous manufactured articles.....	32	13.1	41	12.7	43	12.1	37	11.7
9	Commodities not elsewhere classified..	2	.7	3	.9	19	5.4	4	1.3
	Total.....	242	100.0	327	100.0	353	100.0	318	100.0
0-4	Primary products.....	138	56.9	178	54.3	141	39.9	179	56.4
5-6	Intermediate goods.....	57	23.6	87	26.6	124	35.2	70	22.1
7-8	Manufactured goods.....	46	18.8	60	18.2	69	19.5	64	20.2

TABLE 22.—BULGARIA: LEADING 1975 EXPORTS TO INDUSTRIALIZED WESTERN COUNTRIES

[Values in thousands of U.S. dollars]

SITC	Commodity	1975 rank	1975 value	Percent of total	Cumulative percent	1974 rank	1974 value	Percent of total	Cumulative percent	1973 value	Percent of total	Cumulative percent
1975 RANK ORDER OF PRODUCT DIVISIONS (2-DIGIT SITC)												
05	Fruits and vegetables.....	(1)	56,158	17.7	-----	(1)	47,641	13.5	-----	54,404	16.6	-----
12	Tobacco and tobacco manufactures.....	(2)	43,761	13.8	-----	(5)	23,566	6.7	-----	19,097	5.8	-----
84	Clothing.....	(3)	32,290	10.2	-----	(4)	36,634	10.4	-----	35,626	10.9	-----
67	Iron and steel.....	(4)	27,507	8.6	-----	(2)	45,363	12.9	-----	35,241	10.8	-----
68	Nonferrous metals.....	(5)	20,208	6.4	56.6	(3)	41,779	11.8	55.3	24,454	7.5	51.6
01	Meat and meat preparations.....	(6)	18,911	5.9	-----	(8)	12,656	3.6	-----	29,905	9.1	-----
71	Machinery, other than electric.....	(7)	17,212	5.4	-----	(7)	13,985	4.0	-----	7,587	2.3	-----
00	Live animals.....	(8)	12,210	3.8	-----	(13)	7,658	2.2	-----	18,506	5.7	-----
72	Electrical machinery, apparatus and appliances.....	(9)	9,408	3.0	-----	(9)	12,039	3.4	-----	10,407	3.2	-----
51	Chemical elements and compounds.....	(10)	8,893	2.8	77.5	(6)	16,069	4.6	73.0	10,970	3.4	75.3
11	Beverages.....	(11)	8,178	2.6	-----	(11)	8,982	2.5	-----	5,203	1.6	-----
02	Dairy products and eggs.....	(12)	6,704	2.1	-----	(17)	5,186	1.5	-----	6,905	2.1	-----
33	Petroleum and petroleum products.....	(13)	5,705	1.8	-----	(19)	4,833	1.4	-----	2,354	.7	-----
28	Metalliferous ores and metal scrap.....	(14)	5,110	1.6	-----	(10)	9,161	2.6	-----	2,420	.7	-----
29	Crude animal and vegetable materials, n.e.s. <sup>1</sup> .....	(15)	5,099	1.6	87.2	(18)	5,178	1.5	82.4	3,984	1.2	81.7
Top 15 total.....			277,354	87.2	-----		290,730	82.4	-----	267,063	81.7	-----
Total exports to industrialized Western countries.....			318,116		-----		352,704		-----	327,048		-----
1975 RANK ORDER OF ITEMS (5-DIGIT SITC)												
1210	Tobacco, unmanufactured.....	(1)	43,758	13.8	-----	(2)	23,566	6.7	-----	19,095	5.8	-----
67271	Iron/steel coils for rerolling.....	(2)	15,746	4.9	-----	(3)	19,601	5.6	-----	22,541	6.9	-----
0113	Meat of swine, fresh, chilled, frozen.....	(3)	13,533	4.3	-----	(34)	2,744	.8	-----	9,066	2.8	-----
05552	Vegetables, preserved or prepared.....	(4)	10,993	3.5	-----	(4)	12,860	3.6	-----	15,052	4.6	-----
0545	Other fresh vegetables.....	(5)	10,513	3.3	29.7	(5)	10,062	2.9	19.5	9,829	3.0	23.1
0012	Sheep, lambs, and goats.....	(6)	9,609	3.0	-----	(23)	4,079	1.2	-----	8,057	2.5	-----
6861	Zinc and zinc alloys, unwrought.....	(7)	8,653	2.7	-----	(1)	24,484	6.9	-----	12,080	3.7	-----
0544	Tomatoes, fresh.....	(8)	8,216	2.6	-----	(15)	5,794	1.6	-----	5,647	1.7	-----
84112	Women's, girls', infants' outer garments.....	(9)	8,158	2.6	-----	(9)	8,282	2.3	-----	6,415	2.0	-----
11212	Wine of fresh grapes.....	(10)	8,098	2.5	43.2	(7)	8,915	2.5	34.1	5,131	1.6	34.5
71932	Fork lift trucks.....	(11)	7,804	2.5	-----	(21)	4,755	1.3	-----	2,360	.7	-----
84113	Men's and boys' undergarments.....	(12)	7,454	2.3	-----	(6)	9,488	2.7	-----	8,955	2.7	-----

See footnotes on following page.

TABLE 22.—BULGARIA: LEADING 1975 EXPORTS TO INDUSTRIALIZED WESTERN COUNTRIES—Continued

SITC	Commodity	1975 rank	1975 value	Percent of total	Cumulative percent	1974 rank	1974 value	Percent of total	Cumulative percent	1973 value	Percent of total	Cumulative percent
0240	Cheese and curd	(13)	6,701	2.1		(18)	5,186	1.5		6,905	2.1	
84144	Outer garments, knitted, crocheted	(14)	5,693	1.8		(22)	4,605	1.3		4,744	1.5	
7151	Machine tools for working metal	(15)	5,087	1.6	53.4	(27)	3,790	1.1	42.0	2,198	.7	42.2
51212	Other hydrocarbons	(16)	4,753	1.5		(20)	4,921	1.4		1,841	.6	
84201	Articles of fur skin	(17)	4,678	1.5		(13)	7,110	2.0		7,790	2.4	
6841	Aluminum and aluminum alloys, unwrought	(18)	4,591	1.4		(41)	1,910	.5		1,184	.4	
84111	Men's and boys' outer garments	(19)	4,038	1.3		(24)	4,067	1.2		3,595	1.1	
7221	Electric power machinery	(20)	4,003	1.3	60.4	(16)	5,701	1.6	48.7	4,711	1.4	48.1
67411	Iron/steel heavy sheets, plates	(21)	3,760	1.2		(11)	7,180	2.0		3,288	1.0	
2820	Iron/steel scrap	(22)	3,753	1.2		(10)	8,203	2.3		2,072	.6	
0535	Fruit and vegetable juices	(23)	3,728	1.2		(40)	2,141	.6		2,498	.8	
67251	Iron/steel, blooms, billets, and slabs	(24)	3,652	1.1		(36)	2,372	.7		1,109	.3	
0533	Jams and marmalades	(25)	3,072	1.0	66.0	(35)	2,673	.8	55.1	2,751	.8	51.6
3323	Distillate fuels	(26)	3,015	.9		(—)	0	0		6	( <sup>2</sup> )	
0539	Fruit and nuts—prepared or preserved	(27)	2,958	.9		(53)	1,364	.4		2,792	.9	
05193	Stone fruit, fresh	(28)	2,460	.8		(65)	1,069	.3		1,349	.4	
0551	Flour and flakes of roots and tubers	(29)	2,398	.8		(33)	2,804	.8		2,045	.6	
05361	Fruit preserved by freezing	(30)	2,353	.7	70.2	(70)	940	.3	56.9	1,644	.5	54.0
0112	Meat of sheep and goats	(31)	2,040	.6		(25)	4,011	1.1		4,268	1.3	
05209	Other dried fruit	(32)	1,990	.6		(57)	1,247	.4		1,792	.5	
05551	Vegetables and fruit, prepared by vinegar	(33)	1,979	.6		(55)	1,351	.4		1,461	.4	
5511	Essential oils and resinoids	(34)	1,971	.6		(26)	3,853	1.1		4,449	1.4	
4216	Sunflower seed oil	(35)	1,918	.6	73.3	(8)	8,527	2.4	62.3	4,114	1.3	59.0
0013	Swine	(36)	1,839	.6		(—)	0	0		0	<sup>2</sup> 0	
7222	Electric apparatus for circuits	(37)	1,777	.6		(38)	2,264	.6		2,117	.6	
0751	Pepper and pimento	(38)	1,748	.5		(52)	1,376	.4		1,268	.4	
6782	Tubes and pipes of iron	(39)	1,740	.5		(39)	2,189	.6		1,208	.4	
0616	Natural honey	(40)	1,641	.5	76.0	(42)	1,894	.5	64.5	1,521	.5	60.8
5611	Nitrogenous fertilizers	(41)	1,512	.5		(—)	508	1		841	.3	
6851	Lead and lead alloys, unwrought	(42)	1,493	.5		(17)	5,247	1.5		2,753	.8	
0541	Potatoes, fresh	(43)	1,398	.4		(—)	706	.2		1,346	.4	
2924	Plants, seeds, flowers, parts of plants	(44)	1,396	.4		(63)	1,088	.3		842	.3	
71931	Lifting and loading machinery	(45)	1,379	.4	78.3	(50)	1,469	.4	67.0	1,049	.3	62.9
2218	Oilseeds, nuts, and kernels	(46)	1,318	.4		(19)	5,165	1.5		6,123	1.9	
0138	Other prepared preserved meat	(47)	1,253	.4		(37)	2,353	.7		2,144	.7	
6831	Nickel and nickel alloys, unwrought	(48)	1,229	.4		(—)	609	.2		1,648	.5	
0515	Grapes, fresh	(49)	1,220	.4		(48)	1,596	.5		1,938	.6	
68111	Silver, unwrought or partly worked	(50)	1,184	.4	80.2	(14)	6,195	1.8	71.5	2,136	.7	66.9
	Top 50 total		255,253	80.2			252,314	71.5		218,768	66.9	
	Total exports to Industrialized Western countries		318,116				352,704			327,048		

1 Not elsewhere specified.

2 Small amount, rounding to zero.

TABLE 23.—BULGARIA: DOLLAR VALUE OF TOP 25 1975 EXPORTS TO THE INDUSTRIALIZED WEST AND PERCENT SHARE TAKEN BY EACH WESTERN COUNTRY

SITC	Export item	1975 rank	Dollar value (thousands)	Percent shares taken by Industrialized Western countries													
				Canada	United States	Japan	Belgium/Luxembourg	France	Federal Republic of Germany	Italy	Netherlands	Austria	Norway	Sweden	Switzerland	United Kingdom	Denmark
1210	Tobacco, unmanufactured	1	43,758		39.3	11.0	1.6	10.8	14.0	7.7	1.6	5.2	0.8	(1)	7.8		0.2
67271	Iron/steel coils for rerolling	2	15,746				16.4	4	16.5	59.9					.2	6.6	
0113	Swine meat, fresh, chilled, frozen	3	13,533					52.9	3.2	43.9							
05552	Vegetables, preserved, prepared	4	10,993	16.2		3.3	1.4	8.0	28.3	1.9	.2	3.7	.9	4.5	.8	21.6	9.4
0545	Other fresh vegetables	5	10,513					1.1	44.4			29.6	2.1	4.5	16.2	.5	1.6
0012	Sheep, lambs, goats	6	9,609					39.0		61.0							
6861	Zinc, and zinc alloys, unwrought	7	8,653					17.4	1.1	23.5	.9	8.8	.9			47.4	
0544	Tomatoes, fresh	8	8,216						43.0			40.7		.1	16.2	(1)	
84112	Women's, girls', outer garments	9	8,158				20.6		77.4	1.8			(1)				.1
11212	Wine of fresh grapes	10	8,098	3.3	(1)	26.9	.5	(1)	26.7	.5	.1	25.6	.4	9.9	.6	2.6	2.9
71932	Fork lift trucks	11	7,804	.1		.1	.4	10.9	.7	68.4	1.7	.3	.1	1.1		1.6	14.6
84113	Men's and boys' undergarments	12	7,454	2.2				16.5	80.9				.3				(1)
0240	Cheese and curd	13	6,701	(1)	5.7		4.2	5.1	73.3	.4	1.4	3.4		1.6	2.3	.5	2.2
84144	Outer garments, knit	14	5,693					2.7	92.6	.4		2.0	.2	1.9			.2
7151	Machine tools for working metal	15	5,087	5.9	1.4	1.4	.7	18.3	21.3	19.9	5.2	4.4	7.9	2.6	.1	7.7	3.3
51212	Other hydrocarbons	16	4,753				11.2	6.1	42.1			40.6					
84201	Articles of fur skins	17	4,678	.4		10.6	.4	6.3	70.0	1.5	.3	.1	.4	1.5	1.1	2.1	5.3
6841	Aluminum and aluminum alloys	18	4,591			22.7			34.3	12.1	1.1	9.5				18.5	1.8
84111	Men's and boys' outer garments	19	4,038					20.3	65.0	1.2		.1				9.7	3.8
7221	Electric power machinery	20	4,003	(1)	(1)	1.7	6.2	12.2	22.1	34.7	.5	2.2	3.7	9.0	.1	.3	7.2
67411	Iron/steel heavy sheets, plates	21	3,760					17.8	37.7	39.7	.1					4.7	
2820	Iron/steel scrap	22	3,753						.7	93.9		5.4					
0535	Fruit and vegetables juices	23	3,728	1.3	.6				48.7		4.1	43.0	(1)	1.4		.7	.2
67251	Iron/steel blooms, billets, slabs	24	3,652							103.0							
0533	Jams and marmalades	25	3,072	3.3		51.7	7.2	.2	14.4	8.0	5.8	.3			(1)	8.1	1.0
Total exports to Industrialized Western countries			318,116	1.2	6.4	4.4	3.4	11.5	29.6	20.6	2.0	7.8	.8	2.5	2.9	5.1	2.0
Total imports from Industrialized Western countries			1,038,780	.2	2.8	5.2	3.7	11.8	40.0	12.7	3.4	6.4	.4	3.6	3.7	5.0	1.1

1 Small amount, rounding to zero.

## 2. PRODUCT DIVISION ANALYSIS

*a. Fruits, vegetables, tobacco, meat*

Agricultural products, including fruits, vegetables, and tobacco products, all of which fall into SITC 0 (Food and live animals) and SITC 1 (Beverages and tobacco) comprised nearly one-half of total exports to the Industrialized West in 1975 (see Table 21). This high percentage reflects the general profile of the Bulgarian economy, in that 42% of the population still lives in the countryside and farming employs almost as many as industry.

Assuming domestic consumption and demands from other East European communist countries do not alter drastically from past patterns, the extent to which hard currency exports of agricultural commodities can increase in the remaining years of the current plan will be largely a function of the performance of the agricultural sector. During the last Five-Year Plan period, agricultural production was somewhat below target. Plans for the current period project a 20% growth in the sector, and call for a general organizational change that is expected to ease some of the bureaucratic shortcomings which have at least in part accounted for past difficulties.

In addition to exports of fruits, vegetables, tobacco and wine, which can be expected to remain significant in the next few years, the current plan places an apparent emphasis on meat production. The stress on meat production, coupled with the fact that livestock did relatively well during the past Five-Year Plan, may make for increases in meat and meat products output and export capabilities in the near term. Furthermore, since Bulgaria's meat exports to the I.W. have consisted primarily of swine, sheep, lambs, and goats, they have not been subject to the serious cutbacks resulting from the EC restrictions on beef imports which have troubled meat exports of other East European countries.

*b. Iron and steel, nonferrous metals, chemicals*

Among exports of intermediate goods (SITC 5 and 6) to the Industrialized West, iron and steel and nonferrous metals (zinc, aluminum) were the two primary commodity divisions appearing in our data (see Table 22). As noted earlier, the substantial 1974 to 1975 decline in shipments of items within these two groups account in large part for the decrease in total sales to the I.W. in 1975. This decline was precipitated by Western recession, and as demand recovers, exports of these commodities should regain their strength, and could show an improved earnings position for the remainder of the decade. Bulgaria's ability to meet potentially increasing Western demand for iron and steel, in particular, should be buoyed by the planned 13-18% annual increase in ferrous metal output, attributable in part to modernization of two steel works and construction of a third.

The other intermediate goods category which may have some increased export potential is chemicals, which also suffered a 1975 setback in earnings from the levels of the two prior years. During the current plan period the chemicals sector is slated to be one of the fastest growing sectors, with 1980 output planned to increase almost 80% over 1975 levels. Within the industry, priority has been assigned to petrochemicals, with emphasis on output of plastics and chemical

fibers and yarns. Thus far, however, Bulgaria has not made significant penetration of Western markets with its chemical exports and it is questionable that there can be increases in hard currency earnings above and beyond those that can be expected from expanded demands of existing Western customers.

### *c. Manufactured goods*

In 1975, exports of manufactured goods (SITC 7 and 8) represented 20% of Bulgaria's shipments to the Industrialized West. Three-fourths of these were accounted for by clothing (SITC 84) and nonelectric machinery (SITC 71) shipments.

As a whole, Bulgaria's industrial production is slated to increase 55-60% during the 1976-80 plan period, a goal which is basically the same as that of the prior plan (between 1971-75, an actual 65% was achieved). Light industry is to raise output by slightly over 40%, less than the all-industry target. It seems unlikely that any significant surge in light industry exports, particularly clothing, can be expected, given that the industry will continue to receive lesser priority. Exports of nonelectric machinery (primarily fork-lift trucks wherein Bulgarian technology appears competitive) however, may show an increase, as machine building has been designated as the "core of Bulgarian industrialization". The machine building sector is to double output between 1976 and 1980; undoubtedly some of the output increases will result in increased sales to the West.

Exports of Bulgarian manufactured goods frequently suffer from the same quality shortcomings which prevail among other East European manufactures. This problem, coupled with the fact that the bulk of manufactures are earmarked for East European consumption, makes it unlikely that near term manufactures exports to the West can be very much larger than in the past.

### 3. SUMMARY

Increasing the level of trade with the West has not been a primary concern in Bulgarian economic planning. With as much as 80% of its trade conducted with other CMEA members, Bulgaria has the highest such ratio among all East European countries. Current Five-Year Plan figures indicate a continuation of this trend which, in effect, makes trade with the West somewhat of a residual. Bulgaria will seek continued imports from the West in specific project areas (machine building, precision machines, chemicals, electronics, food processing), and to pay for these it will need to expand its capacity for hard currency earnings. Exports to the LDCs will probably become more important sources of hard currency than will exports to the developed West. Bulgaria's trade with LDCs has been leaving it with a surplus, and surpluses may continue to be expected as the marketability of Bulgarian manufactures is generally better among less developed countries than among I.W. trading partners.

Insofar as trade with developed Western countries, it appears that the commodity structure of exports will not differ much from past patterns, and value increases (particularly among iron, steel, chemicals, and nonferrous metals) will in large part be contingent on Western recovery from the 1974-75 recession.

## III. SUMMARY

A basic objective of this paper is to contribute to an ability to project future levels of Soviet/EE trade with the West. We see Soviet/EE needs for imports from the West as very large. But we also foresee a limit to further expansion of the debt to the West which has supported much of the recent growth of Eastern imports. Rather, we believe Soviet/EE ability to increase imports is, in the longer term, inevitably largely dependent upon an expansion of the dollar value of their hard currency exports to the West. Ability to accomplish this expansion is, in turn, dependent on at least four basic factors:

Increasing the physical volume of products available for export.

Increasing penetration of Western markets, i.e., successfully selling increased quantities to the West.

The rate of Western inflation.

The terms of trade (the relationship of import to export prices).

The U.S.S.R. and the East European countries are not yet major exporters to the I.W. Soviet/EE exports to the 15 Industrialized Western countries are still small, in 1975 totaling only \$16.6 billion (see Table 24), an amount equivalent to less than five percent of the \$334 billion exported during the same year by the 15 I.W. countries to other countries within the I.W. group. Nor have recent exports significantly increased the Soviet/EE share of the I.W. market. The large (107%) increase in Eastern exports to the I.W. between 1972 and 1975 is less striking when taking into account the 74% increase in I.W. to I.W. exports over the same period. Soviet/EE exports to the I.W. were equivalent to only 4.2% of the value of I.W. to I.W. exports in 1972; the percentage rose only somewhat from 1972 to 1975; from 4.2% to about 5%.

TABLE 24.—U.S.S.R. AND EASTERN EUROPE: VALUE AND COMPOSITION OF 1975 EXPORTS TO INDUSTRIALIZED WEST

[Amounts rounded to millions of U.S. dollars]

SITC	Description	U.S.S.R.		Poland		German Democratic Republic		Czechoslovakia		Romania		Hungary		Bulgaria		Total Soviet-Eastern Europe	
		Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent
0	Food and live animals.....	\$129	1.9	\$464	16.8	\$349	15.5	\$120	8.1	\$227	15.8	\$383	32.6	\$100	31.3	\$1,772	10.7
1	Beverages and tobacco.....	13	.2	16	.6	15	.7	6	.4	8	.6	16	1.3	52	16.3	126	.8
2	Crude materials, inedible, except fuels.....	1,748	24.5	266	9.6	145	6.4	167	11.2	106	7.4	104	8.9	19	6.1	2,555	15.4
3	Mineral fuels, lubricants, and related products.....	3,404	47.7	933	33.8	240	10.7	207	13.9	354	24.6	25	2.1	6	1.8	5,169	31.2
4	Vegetable oils and fats.....	122	1.7	10	.4	13	.6	4	.3	43	3.0	18	1.5	3	.9	213	1.3
5	Chemicals.....	279	3.9	106	3.8	236	10.5	100	6.7	65	4.5	81	6.9	16	5.1	883	5.3
6	Manufactured goods.....	1,123	15.8	368	13.3	514	22.8	400	26.9	223	15.5	196	16.7	54	17.1	2,878	17.4
7	Machinery and transport equipment.....	229	3.2	306	11.1	262	11.6	235	15.8	92	6.4	98	8.4	27	8.6	1,249	7.5
8	Miscellaneous manufactured articles NEC 1.....	51	.7	269	9.7	466	20.7	224	15.1	313	21.8	240	20.4	37	11.7	1,600	9.7
9	Commodities NEC 1.....	32	.5	23	.1	11	.5	24	1.6	6	.4	14	1.2	4	1.3	114	.7
	Total.....	7,131	100.0	2,761	100.0	2,252	100.0	1,487	100.0	1,437	100.0	1,173	100.0	318	100.0	16,559	100.0
	Percent of total U.S.S.R.-Eastern Europe exports.....		43.1		16.7		13.6		9.0		8.7		7.1		1.9		100.0
	0-4 Primary products.....	5,417	76.0	1,689	61.2	762	33.8	504	33.9	738	51.4	545	46.4	179	56.4	9,834	59.4
	5-6 Intermediate goods.....	1,403	19.7	473	17.1	759	33.3	500	33.6	288	20.0	277	23.6	70	22.1	3,761	22.7
	7-8 Manufactured goods.....	280	3.9	575	20.8	728	32.4	459	30.8	405	28.2	338	28.8	64	20.2	2,849	17.2
	Growth 1972-75.....	4,286	150.7	1,398	102.6	1,041	86.0	618	71.1	711	97.9	427	57.2	76	31.4	8,557	107.0

1 Not elsewhere classified.

Table 24 also synthesizes the volume and composition of Eastern exports. Over 76% of 1975 Soviet exports to the I.W. and over 59% of total Soviet/EE exports were primary products (SITC 0-4); only 17% were manufactured goods (SITC 7-8). Energy products (petroleum, coal, and gas) were dominant in Soviet, Polish and Romanian exports. Manufactured good exports were relatively unimportant to the U.S.S.R. (about four percent of the 1975 total, and a smaller dollar value than any of the EE countries except Bulgaria), but were much more important (28 to 32% of total) to the GDR, Czechoslovakia, Romania and Hungary. Export growth rates between 1972 and 1975 were highest for the U.S.S.R. (151%), Poland (103%), and Romania (98%), where price increases in petroleum, coal, and other raw materials spurred large dollar advances. However, the GDR also achieved rapid growth (86%).

In general, export dollar value increases achieved over the 1972-1975 period appear to be due primarily to increases in price rather than quantities exported. Looking to the future, Soviet/EE export capabilities can be expected to grow steadily through 1980, but usually at modest rates. Export capabilities in crucial sectors, e.g., Soviet petroleum, Romanian petroleum, Soviet and Polish coal, Soviet lumber and ores, East European food products, appear to be generally constrained by increasing domestic demands and/or difficulties in bringing new production on stream, making large near term increases in quantities available for export unlikely.

Intermediate and manufactured goods export volume capabilities of the Soviet Union and most European countries are also likely to increase only moderately over the next few years, although Polish and Romanian capacities may increase relatively more rapidly than others.

Export volumes achieved are, of course, also a function of Western demand. In some cases, manufactured goods export capabilities may expand faster than ability to overcome traditional marketing problems that hamper ability to penetrate Western markets. Additionally, Western import requirements, particularly for raw materials and capital goods, are closely tied to the Western business cycle.

Improved economic conditions in the West will particularly facilitate sales of raw and semi-processed materials, but would also provide an improved climate for the sale of Eastern manufactured goods, which must frequently overcome the handicap imposed by lack of an established positive reputation for providing quality, reliability, service, etc. Better Western economic conditions also will act to lessen the likelihood of I.W. restrictions on imports from Eastern sources of intermediate and manufactured goods.

With its very low volume of manufactured good exports, a situation that will not change significantly in the next few years, the Soviet Union is probably least vulnerable to potential Western import restrictions. The GDR, with approximately 60% of its exports going to the FRG (considered as inter-zonal trade and hence excepted from FRG trade barriers), is also less vulnerable to Western restrictions. However, the export and trading capabilities of the remaining East European countries are potentially much more susceptible to Western restrictions, not only in intermediate and manufactured goods, but also in some food items that are important sources of hard currency.

Eastern hard currency export prices are, in general, determined in Western markets. Inflation in the West will, therefore, tend to raise unit prices of Eastern imports and exports and, with constant real trade volumes, to proportionately increase the dollar value of their imports from and exports to the West. If East-West terms of trade and trade volumes were to remain constant, the short run effect of inflation in the West would therefore be to increase the dollar value of existing Eastern trade deficits with the West. At the same time, however, the real burden of previously incurred hard currency debt would decrease, since the quantity of exports required to service existing debt would diminish, to the extent that the nominal rate of interest paid on existing debt is not adjusted upward to fully include an inflation premium.

Of course, other things need not be equal. Western inflation could produce or be commensurate with business conditions that reduce the demand for, and/or the price of, those raw and semi-processed materials that dominate Eastern exports. However, over the 1972-1975 period, changes in the terms of trade generally favored those Eastern countries with energy products and other raw materials available for export, i.e., U.S.S.R., Poland, and Romania, while those countries relying more on intermediate and manufactured goods exports probably experienced a deterioration in the terms of their trade.<sup>18</sup>

Looking to the future, the very large 1972-75 price increases in energy products seem unlikely to be repeated, even though energy prices may continue to climb at slower rates. Price trends in other raw materials key to Soviet and Polish hard currency export capabilities; e.g., lumber, sulfur, copper and other nonferrous metals, are even less certain and decreases from 1975 levels are not impossible.

In sum, prospects for hard currency export growth through 1980 vary significantly within the Soviet/EE group, with each country capable of some growth, but the U.S.S.R. and Poland probably capable of the fastest advances. However, barring high rates of Western inflation, or further large price increases in key export items, the U.S.S.R., Poland, and most of the other EE countries will be hard pressed to match 1972-1975 rates of growth in exports to the I.W. during the 1977-1980 period.

<sup>18</sup> According to the Economic Bulletin for Europe, Vol. 28, prepared by the Secretariat of the Economic Commission for Europe, Geneva, 1976, p. 114, "the Western terms of trade deteriorated by 6.5% in 1973 and by 13% in 1974—most of the deteriorations were concentrated in Western trade with the Soviet Union. This was due to an upsurge in the price of fuels and other industrial materials which account for a high share of Western imports from the Soviet Union. . . . the terms of trade of Western countries in trade with Eastern Europe other than the Soviet Union improved. These countries exported relatively little of fuels, timber and some other industrial materials . . ."

# IMPORT PROTECTION AND EAST-WEST TRADE: A SURVEY OF INDUSTRIALIZED COUNTRY PRACTICES

BY KAREN C. TAYLOR\*

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## INTRODUCTION

During the 1970's most industrialized nations witnessed impressive increases in their trade with the communist countries.<sup>1</sup> During these years the communist countries as a whole ran up significant deficits with the industrialized West. The recession in 1975 in the industrialized world served to increase the hard currency trade deficits of the communist countries even further by reducing import demand in the West. To cover these deficits and to maintain planned levels of essential imports, hard currency indebtedness also expanded rapidly. By the end of 1976 the estimated aggregate debt to the West totalled around \$40 billion. Increasing deficits and increasing indebtedness by Eastern European countries and the Soviet Union will exert pressure upon these nations to export more manufactures and semi-manufactures, as well as the more traditional exports of raw materials and agricultural products.

Historically, a good deal of concern has been expressed by Western governments, industries and workers that centrally-planned economies have the potential to disrupt the production of market economies. The theoretical argument has been that the centrally-planned economy can ignore (or does not know) the real costs of production and can thus undercut the price of an item produced under costs set by the price system in a market economy. In fact, however, the economic circumstances of the communist countries, their need to import capital goods and their need to realize the maximum hard currency return from their exports, generally militates against the tendency to price exports significantly below world market prices. Nevertheless disruptive activity has occasionally occurred. In response, Western

\*It should be understood that the views expressed in this paper are those of the author and do not necessarily represent the position of the U.S. Government.

<sup>1</sup> The communist countries included in this study are: Bulgaria, Czechoslovakia, German Democratic Republic, Hungary, People's Republic of China, Poland, Romania, and the U.S.S.R.

nations have taken and no doubt will continue to take protective measures to meet these problems.

The central paradox that must be resolved by systems designed to protect against disruptive or damaging imports is how to provide a sufficiently effective system to protect important domestic interests, but one that is at the same time flexible enough to permit economically beneficial trade to continue and to expand. This problem is not readily resolved, even when trade between states which enjoy the same type of economic system is involved, much less when trade between free-market and non-market economies is involved.

Each Western industrialized nation has developed its own system of laws and methods for dealing with imports which cause or threaten to cause injury to its domestic industry. The practices are many and varied. Some have special rules for dealing with imports from communist countries. Some have special bilateral arrangements. Some employ quantitative restrictions. This paper examines briefly the methods of relief available at the multilateral level under the General Agreement on Tariffs and Trade (GATT), and looks in some detail at the methods employed by Austria, the United Kingdom, the European Community (EC), and the United States. By surveying the many types of practices employed, it is hoped that some assessment can be made about the effectiveness of given protective systems under given circumstances; and that some judgment can be made on the relative merits of different systems.

In the past, imports from communist countries were small and effectively excluded from the markets of industrialized countries not only because of problems of quality, but also due to a low degree of communist interest in Western markets. However, as their goods become more competitive in terms of quality, and as the communist countries face pressures to export in order to earn hard currency, it will be increasingly important for the Western countries to have import protection devices that can prevent market disruption, but which also permit beneficial trade with the East to grow.

#### THE MAJOR INSTITUTIONAL AND LEGAL TOOLS OF IMPORT PROTECTION

Since the field of import protection is a virtual morass of competing legal authorities, we will first discuss some of the primary protective tools and their underlying concepts. For the convenience of the reader, abbreviated definitions of some basic terms are provided here.

*Dumping*, or price discrimination, is the practice of exporting goods at prices lower than those which would obtain in the domestic market of the exporting country in the normal course of trade. The *margin of dumping* is the difference between the export price and the home market price in the country of export.

Anti-subsidy or *countervailing duties* are imposed against imports which have benefitted from governmental subsidies, bounties, or grants either during production of the good or upon its export.

*Safeguards or escape clause actions* are taken against imports which cause or threaten serious injury. A signatory to the General Agreement on Tariffs and Trade (GATT) must take safeguards actions which conform to Article XIX of GATT. The original intent behind Article XIX was to be able to provide a limited buffer against the

more undesirable results of general trade liberalization, hence the terminology—safeguards or escape clause.

*Market disruption* has several varying definitions depending on the statute involved, but can be generally defined as a situation in which rapidly increasing imports cause or threaten material injury. The intent of market disruption regulations is to provide protection against sudden changes in trade patterns which adversely affect a domestic industry.

In all cases in which it is employed, *injury* is interpreted as meaning injury to a domestic industry producing a like or directly competitive product. Different types of authority invoke different levels of injury, i.e., the United States requires serious injury in escape clause actions, and material injury in market disruption actions.

*Quantitative restrictions* (QRs) take many forms, but the most common are quotas and tariff-rate quotas (a higher tariff applied to imports of a commodity over a given volume or value). QRs can either be global (non-discriminatory)—that is applied against all suppliers or a particular product; or discriminatory—that is applied against a product originating in a particular area or country.

The above definitions list only the most important terms relating to import protection. It should be noted that other practices (foreign exchange controls, trade measures taken for balance-of-payments purposes, certain nontariff barriers, denial of most-favored-nation (MFN) status, and a generally high level of tariffs) also play a part in the overall system which protects against general imports as well as against imports from communist countries. Non-discriminatory import protection devices do not normally place a heavier burden upon communist exporters than on other exporters. However, if they provide a generally high level of effective protection, there is a reduced need to provide for special protection against communist imports. It should further be noted that trade restrictions have often been taken against the communist countries for political as well as economic reasons.

There are three kinds of authority under which any nation can seek import relief: the multilateral authority of the GATT (providing it is a GATT signatory); bilateral authority—usually under the rubric of a bilateral trade agreement; and unilateral authority based on national legislation and administrative authority. These three authorities, interact with and reinforce each other—but may sometimes conflict. This paper deals briefly with the multilateral institutions. Bilateral arrangements, which serve mostly to facilitate amicable solutions whether under the multilateral or unilateral authorities, will not be treated extensively in this paper either. Our most basic interest is in the unilateral or nationally legislated protective devices.

In addition to the three types of authority, protective systems fall into two generic groupings: *ex ante* and *ex post*. The *ex ante* systems provide protection prior to importation and include such practices as established quantitative restrictions, the denial of MFN, the arbitrary denial of automatic licenses and other nontariff barriers. *Ex post* systems provide protection after the fact of importation and include such practices as anti-dumping, countervailing, market disruption, and safeguards actions. These actions are taken only after a determination is made that a particular importation is undesirable (for whatever

reason). However, some remedial actions (e.g., new quotas or voluntary export restraints), taken under *ex post* systems can become new *ex ante* restrictions, especially if they are continued indefinitely.

In terms of liberal trade theory, *ex post* systems, as long as they do not lead to an excessive development of new *ex ante* restrictions, are preferable to *ex ante* systems because they generally permit more trade to occur. It is sometimes argued that since the potential for disruption is greater from a centrally-planned economy, *ex ante* systems can be employed against these countries with some justification. However, while communist countries have occasionally disrupted markets, they have not been particularly troublesome. Certainly there has been little difference between the behavior of communist traders and Western traders.

*Ex post* systems can be categorized under several different headings, according to the standards they employ. One approach is to use a "fair trade practices" or "behaviorial" standard. Examples of this type of standard can be found in GATT and throughout U.S. legislation. Anti-dumping, for example, involves the premise that export prices shall not be less than domestic prices. Export at a lower price than is charged domestically is assumed to constitute an unfair trade practice against which, it is claimed, nations rightfully can be expected to protect themselves.

The other basic standard used by *ex post* systems is the "injury" standard. An injury standard evaluates only the effects of an import on a domestic industry, without making a judgment about whether or not the practice giving rise to the import is desirable. Escape clauses and market disruption clauses rely basically on an injury standard. When injury is the standard, then the pertinent question becomes not whether an export is fair or unfair, but rather how much injury is to be permitted before calling for action and what factors are to be considered in determining whether or not that level of injury has been reached.

Some *ex post* systems (e.g., anti-dumping), combine both an unfair trade practices standard and an injury standard. This paper will argue that while these arrangements were practical and sensible under the liberal trade regime established when the GATT was first negotiated, when these arrangements are applied to trade with non-market economies, significant anomalies have cropped up, particularly with respect to fair trade practices standards.

#### GATT, THE ESCAPE CLAUSE AND THE EVOLUTION OF THE CONCEPT OF MARKET DISRUPTION

Before investigating the practices of individual countries, we will first examine briefly the multilateral safeguards and market disruption systems employed by the General Agreement on Tariffs and Trade (GATT).

Under the GATT, as initially negotiated in 1947, there were no provisions to deal directly with the problems of imports from non-market economies. The specific actions which could be taken to protect a country's economic interests were carefully set out and circumscribed as being the only permissible exceptions to what was intended to be a free trade regime. These exceptions included: (a) The general escape clause; (b) anti-dumping and countervailing duties; (c) nullification or

impairment; (d) actions taken for balance-of-payments purposes; and (e) deviations from obligations when necessary for economic development. The escape clause and the related thinking about market disruption will be the only exception listed above which will be discussed in this section. Anti-dumping and countervailing will be discussed later in the paper in the context of national anti-dumping and countervailing legislation. The other exceptions are not generally relevant to East-West trade and will therefore not be treated in this paper.

Actions taken under the general escape clause (Article XIX) were restricted to circumstances whereby imports were increasing to such an extent as to cause or threaten to cause serious injury and must have resulted from both unforeseen developments and the effect of obligations incurred under the GATT. Any restrictive actions employed by a contracting party when invoking the escape clause were to be taken on an MFN basis; and any contracting party which felt it had been injured by a safeguard action taken against it could either withdraw an equivalent concession or demand compensation.<sup>2</sup> The main problems with using the escape clause were: its high standard of injury, the mandatory link to concessions made under the GATT, the requirement to take restrictive actions on an MFN basis, and the potential for retaliation which could lead to actions and counteractions that could ultimately erode whatever progress had been made in liberalizing trade and freeing it from undue restrictions.

During the early 1950's the application of Japan to become a contracting party highlighted the weaknesses of the escape clause and generated some thinking about what constituted market disruption. There was a great deal of opposition to the accession of Japan because of the lack of an effective *ex ante* protective mechanism (which, of course, would have been contrary to the spirit of GATT anyway). The problem of Japanese accession was resolved through a series of bilateral agreements, which included protocols of quantitative restrictions (QRs) between Western European countries and Japan, while some of these countries were still maintaining their reservations to Japan's accession under Article XXXV. The QR agreements were continued as a condition of removing these reservations.

In addition, it was realized that the GATT had no provision by which contracting parties could legally take action against increased imports from another contracting party that was highly competitive because of low wages. As long as the imports were not dumped or did not benefit from a government subsidy, free trade theory would have held that such imports should be welcomed by consumers and that employment in the importing country should be shifted to more competitive production.

By the late 1950's attention was no longer focused solely on Japan, but there was a general concern that imports from developing countries might lead to the same set of problems. At this point the GATT Secretariat decided to work out an approach to deal with the problem which by then had come to be termed market disruption.

In 1960 a questionnaire was sent out to the contracting parties asking them to report on their market disruption practices. The U.K.,

<sup>2</sup> Article XIX does not provide specifically for compensation. The practice of compensation developed in order to avoid the detrimental effects of retaliation.

France, Germany, Austria, Canada, Finland, Italy and others reported having taken various import restrictions. The measures used included tariffs, import quotas, anti-dumping duties, internal taxation, exchange rate manipulations, voluntary export quotas, and a host of administrative restrictions. Problems reported were mostly in the area of textiles, but also included stainless steel flatware, plywood, and plastic buttons. Japan was the exporter against whom actions were most often taken, but Hong Kong, Eastern Europe, Poland, Hungary, East Germany, India and Pakistan were also mentioned.<sup>3</sup>

The definition of market disruption drawn up by the Working Party was as follows:

These situations (market disruption) generally contain the following elements in combination:

(i) A sharp and substantial increase or potential increase of imports of particular products from particular sources;

(ii) These products are offered at prices which are substantially below those prevailing for similar goods of comparable quality in the market of the importing country;

(iii) There is serious damage to domestic producers or threat thereof; and

(iv) The price differentials referred to in paragraph (ii) above do not arise from governmental intervention in the fixing or formation of prices or from dumping practices.<sup>4</sup>

The conditions set out under point (iv) specifically preclude the application of the GATT Working Party definition of market disruption to non-market economies. This was done partly for political reasons and partly because it was felt that existing anti-dumping and countervailing procedures were adequate to handle the problem and were the appropriate measures to take.

The efforts of the Working Party on market disruption never amounted to much. This was largely due to the fact that in 1961 work on a textiles agreement began in earnest. Since most of the market disruption problems were textiles problems, with the conclusion of a multilateral Cotton Textiles Agreement the need to arrive at a solution to the general problem of market disruption became less pressing. Today, in the Multifiber Agreement (MFA)—successor to the original Cotton Textiles Agreement—one finds an explicit definition of what constitutes market disruption in the area of textiles, as well as a comprehensive system of dealing with the difficult problems of this industrial sector.<sup>5</sup>

The question of protection against imports from state-controlled economy countries was not addressed directly by the GATT until 1961, which was the first time that the question of accession by a non-market economy (Poland) arose. The main concern in negotiations with the Poles, and subsequently with the Romanians and Hungarians as well, was how to obtain concessions which would be reciprocal for Western tariff concessions—not how to provide adequate protection.

<sup>3</sup> Gardner Patterson, *Discrimination in International Trade: The Policy Issues 1945-1965*. (Princeton, N.J.: Princeton University Press), 1966, pp. 303-305.

<sup>4</sup> GATT, *Basic Instruments and Selected Documents*, 9th Supplement (1961).

<sup>5</sup> Actually the MFA plays an important part in East-West trade. Under the MFA, the U.S. has negotiated bilateral textiles agreements with several East European countries, as has the European Community. Under these bilateral agreements constant consultations are held concerning quota levels for several types of import sensitive products. Due to time constraints, the textiles agreement is not dealt with in detail in this paper. It is nevertheless an important instrument of import policy for many countries.

However, as part of the accession protocols for these three countries, a special safeguards clause was included. While the Polish, Romanian and Hungarian safeguards clauses do not involve a different criterion for taking action than is contained in Article XIX (serious injury), they do simplify the procedures for taking action and permit such actions to be taken on a non-MFN basis, i.e., to be invoked only against the non-market exporting country. Also, the increased imports need not have occurred as a result of obligations undertaken as a GATT member.

Thus, several import protection approaches—general safeguards (Article XIX) and protection against market disruption (which was incorporated in the textiles agreement) and special procedural methods employed against non-market economies (as reflected in the special protocols of accession)—remain separate in the GATT system.

In the absence of a clearcut multilateral authority for taking actions against communist imports causing market disruption, unilateral national authority remains the most frequent source of import relief. The sections which follow on Austria, the U.K., the European Community and the United States will describe how these nations have chosen to protect themselves against disruptive communist imports, and how national import protection strategies can differ.

#### NATIONAL IMPORT PROTECTION SYSTEMS

The following four sections describe the national import protection systems of Austria, the United Kingdom, the European Community, and the United States. These countries were selected in order to give a cross sample of experience in East-West trade. Austria was chosen because it is a small, neutral country, heavily dependent upon foreign trade generally, and very active in East-West trade in particular. The United Kingdom was selected because its balance-of-payments and other economic problems provide the example of a country under conditions which usually give rise to pressures for import protection. It was also chosen to illustrate how a member of the European Community can mesh its own trade policy actions with the instruments of the Community. The European Community was chosen because the nine members combined are the most important Western trade partners for the communist countries, and because these countries combined form an economic unit roughly equivalent to the United States. Finally, the United States was chosen because of its general economic strength and because its trade patterns and policies toward the communist countries differ in important respects from the other three subjects. While this paper obviously does not cover the entire universe of actions which can be taken against communist imports, the inclusion of the countries selected guarantees that the most important ones are covered. Further, the reader will be able to see how each country uses the various tools available for import protection in different ways.

##### *Austria*

During the course of the last two decades, Austrian trading relations with Eastern Europe evolved from a relatively restrictive relationship characterized by: an almost total denial of MFN status to the communist countries; a significant number of discriminatory quantitative

restrictions (which for example were applicable to roughly 35 percent of Austria's imports from CMEA countries in 1973),<sup>6</sup> and the use of bilateral currency clearing arrangements. Presently, Austrian trade with the communist countries is characterized by a liberal relationship that: provides MFN status to all the Eastern European nations and the Soviet Union; has abolished all discriminatory quantitative restrictions; and no longer extensively utilizes bilateral currency clearing arrangements.

Before going into a discussion of Austria's import protection tools, we will first investigate its trade patterns with the centrally-planned economies. Austria is a country which is highly dependent on foreign trade generally (its total exports to the world equalled roughly 20 percent of its GNP in 1975). In the last decade Austria's trade with its Eastern neighbors consistently represented about 10-13 percent of its trade with the world. During the early 1970's Austria's trade balance with the centrally-planned economies was always in modest surplus. However, between 1972 and 1975, the favorable balance of trade increased by over 1,400 percent, or an absolute increase of just under \$318 million. The increase in the Austrian surplus seems even more noteworthy when one considers that it occurred despite an increase during the same period in the dollar value of Austrian purchases of coal, oil, gas and raw materials of some \$317 million. The drastically increased trade surplus was almost entirely due to sales of chemicals, manufactured goods, machinery and transport equipment to Eastern Europe, specifically, Poland, Hungary and the German Democratic Republic. (See Tables 1-3.)

TABLE 1.—AUSTRIA'S TRADE WITH THE WORLD AND GNP

[In millions of dollars]

	1972	1973	1974	1975
Total trade with world.....	9,029	11,791	16,188	16,912
Exports to world.....	3,854	5,021	7,163	7,519
Imports from world.....	5,175	6,770	9,025	9,393
Balance of trade with world.....	-1,321	-1,749	-1,862	-1,874
Austrian GNP.....	20,307	27,235	32,820	35,572

Source: OECD, "Monthly Bulletin of Trade Statistics," and IMF, "International Financial Statistics."

TABLE 2.—AUSTRIA'S TRADE WITH CENTRALLY PLANNED ECONOMIES (CPE'S)<sup>1</sup>

[In millions of dollars]

	1972	1973	1974	1975
Total trade with CPE's.....	920	1,253	1,975	2,278
Exports to CPE's.....	471	645	1,085	1,309
Imports from CPE's.....	449	608	890	969
Balance of trade with CPE's.....	+22	+37	+195	+340

<sup>1</sup> Bulgaria, Czechoslovakia, German Democratic Republic, Hungary, People's Republic of China, Poland, Romania, and U.S.S.R.

Source: U.N. trade data, as reported by member countries on an SITC basis.

<sup>6</sup> Janina Laudanska, "Quantitative Restrictions in International Trade Considered in Relation to the Growth of Industrial Cooperation between Poland and the Countries of the West," *Handel Zagraniczny*, No. 1, January 1976, p. 18-22. Translation from Polish in *Joint Publications Research Service* of May 14, 1976, p. 26.

TABLE 3.—VALUE AND COMPOSITION OF 1975 AUSTRIAN TRADE WITH CPE'S

[Dollar amounts in millions]

SITC and description	Imports			Exports			Balance		
	Eastern Europe	U.S.S.R.	PRC	Eastern Europe	U.S.S.R.	PRC	Eastern Europe	U.S.S.R.	PRC
0—Food and live animals.....	\$93.3	\$1.4	2.3	\$28.1	( <sup>1</sup> )	—	-\$65.2	-\$1.4	-2.3
1—Beverages and tobacco.....	9.0	.1	.4	1.8	( <sup>1</sup> )	—	-7.2	-.1	-.4
2—Crude materials (excluding fuel)...	100.1	43.8	5.9	43.4	( <sup>1</sup> )	4.9	-56.7	-43.8	-1.0
3—Mineral fuels and products.....	232.2	238.9	—	26.9	\$0.1	—	-205.3	-238.8	—
4—Animal and vegetable oils.....	22.7	.8	.1	.6	—	—	-22.1	-.8	-.1
5—Chemicals.....	55.2	9.2	1.0	200.4	34.4	12.0	+145.2	+25.2	+11.0
6—Manufactured goods by material...	63.9	11.0	2.5	422.1	63.3	3.1	+358.2	+52.3	+6
7—Machinery and transport equipment.....	34.8	12.7	( <sup>1</sup> )	288.9	90.7	9.4	+254.9	+78.0	+9.4
8—Miscellaneous manufactured articles.....	26.3	.9	1.1	50.9	27.6	.2	+24.6	+26.7	-.9
Totals.....	636.7	318.8	13.3	1,063.1	216.1	29.6	+426.4	-102.7	+16.3

<sup>1</sup> Figure is too small to appear in rounding, but is not zero.

Source: UN trade data, as reported by member countries.

Tables 4 and 5 rank the top fifteen categories of Austrian imports and the top fifteen categories of Austrian exports (at the 2-digit SITC level) for 1975. It is interesting to note that the import list is dominated by fuels, raw materials, and semi-manufactures and contains very few of the categories of imports which are usually considered to be sensitive such as textiles and footwear. The export list is dominated by machinery, iron and steel products, and chemicals. In all cases where items appear on both lists (with the exception of petroleum and petroleum products), the value of Austria's exports exceeds the value of its imports.

TABLE 4.—AUSTRIAN IMPORTS FROM CPE'S IN 1975 RANKED BY VALUE

[Dollar amounts in thousands]

Rank:	SITC	Description	Total	Percent of total by area		
				PRC	EE	U.S.S.R.
1	32	Coal, coke, and briquettes.....	\$228,830	—	76	24
2	33	Petroleum and petroleum products.....	154,123	—	33	67
3	34	Gas, natural and manufactured.....	81,551	—	1	99
4	24	Wood, lumber, and cork.....	57,797	—	95	5
5	51	Chemical elements and compounds <sup>1</sup> .....	38,461	( <sup>2</sup> )	95	5
6	05	Fruits and vegetables.....	33,680	2	98	1
7	27	Crude fertilizers and crude minerals.....	29,844	( <sup>2</sup> )	36	64
8	28	Metalliferous ores and metal scraps.....	27,647	15	33	52
9	67	Iron and steel manufactures.....	27,302	—	74	26
10	42	Fixed vegetable oils and fats.....	23,128	( <sup>2</sup> )	97	3
11	73	Transport equipment.....	21,093	—	44	56
12	01	Meats and meat preparations.....	20,693	2	96	3
13	65	Textile yarn, fabrics, madeup articles.....	17,498	11	84	5
14	02	Dairy products and eggs.....	14,918	6	94	( <sup>2</sup> )
15	71	Machinery other than electric.....	14,677	( <sup>2</sup> )	96	4
Total top 15 imports.....			791,242	—		
Total all imports from CPE's.....			968,781	—		

<sup>1</sup> Austria does not disaggregate all of its chemical imports. It does, however, count these items in the total for the chemical section (SITC sec. 5). Therefore, the SITC division ranked above (51) understates the significance of Austrian chemical imports by some \$17,292,000, most of which (63.3 percent) was imported from Eastern Europe.

<sup>2</sup> Figure is too small to appear in rounding, but is not zero.

Source: UN trade data, as reported by member countries.

TABLE 5.—AUSTRIAN EXPORTS TO CPE's IN 1975 RANKED BY VALUE

[Dollar amounts in thousands]

Rank	SITC	Description	Total	Percent of total by area		
				PRC	EE	U.S.S.R.
1	71	Machinery other than electric.....	\$253,124	4	76	20
2	67	Iron and steel.....	233,205	1	78	22
3	64	Paper manufactures.....	78,756	(1)	97	3
4	58	Plastic materials <sup>2</sup> .....	75,197	(1)	88	12
5	72	Electrical machinery and appliances.....	69,057	(1)	73	27
6	73	Transport equipment.....	66,831	-----	69	31
7	69	Manufactures of metal, n.e.s. <sup>3</sup> .....	58,271	3	91	6
8	51	Chemical elements and compounds <sup>2</sup> .....	50,719	7	69	24
9	66	Nonmetallic mineral manufactures, n.e.s. <sup>3</sup> .....	48,305	-----	96	4
10	89	Miscellaneous manufactured articles, n.e.s. <sup>3</sup> .....	33,741	(1)	76	25
11	65	Textile yarn, fabrics.....	33,186	(1)	87	13
12	26	Textile fibers.....	21,788	23	78	(1)
13	33	Petroleum and petroleum products.....	21,480	-----	100	(1)
14	6	Sugar, sugar preparations, and honey.....	21,154	-----	100	-----
15	53	Dyeing, tanning, and coloring materials <sup>2</sup> .....	20,732	-----	72	29
Total top 15 exports.....			1,085,546	-----	-----	-----
Total all exports to CPE's.....			1,308,842	-----	-----	-----

<sup>1</sup> Figure is too small to appear in rounding, but is not zero.<sup>2</sup> Austria does not disaggregate all of its chemical exports. It does, however, count these items in the total for the chemical section (SITC sec. 5). Therefore, the 3 SITC divisions ranked above (58, 51, and 53) understate the significance of Austrian chemical exports by some \$77,304,000, most of which (82.8 percent) was exported to Eastern Europe.<sup>3</sup> Not elsewhere specified.

Source: U.N. trade data, as reported by member countries.

Agricultural and manufactured products containing relatively higher labor "value added contents" are usually the primary targets of import restrictions. In 1975 imports of agricultural and manufactured products by the Austrians totalled some \$324 million as contrasted to exports of manufactured goods alone of almost \$1,203 million. What these figures strongly suggest is that the Austrians would have a great deal to loose in terms of profitable exports should they opt for a restrictive import policy toward the communist countries.

As might be expected, Austrian trade policy toward the centrally-planned economies has been one of emphasis on exports and the development of export markets through industrial cooperation both in Eastern countries and in triangular cooperation in third (usually developing) countries. However Austria, like other Western nations, has provided mechanisms to protect itself against dumping and market disruption. In addition, Austria maintains a number of non-discriminatory quantitative restrictions including global quotas, discretionary licensing, state trading and seasonal restrictions, mostly on imports of agricultural products. Austria also employs a generally higher tariff schedule (almost 15.9 percent based on a 1971 trade-weighted estimate) than do the major Western trading nations (8.9 percent for the U.S. and 10.4 for European Community). The higher tariff and non-discriminatory quotas provide a higher level of generalized protection thereby reducing the need for discriminatory protection.

As characterized by an Austrian trade authority, Dr. Jan Stanovsky, the objectives of Austrian trade policy toward Eastern Europe and the U.S.S.R. are:

- To secure and extend trade outlets;
- To guard against market disturbance;
- To check the building up of economic power and an Eastern trade monopoly by the central economic bodies of the East; and

To obtain material reciprocity for trading concessions, since formal reciprocity cannot be established at all, or at least not on a satisfactory basis, with the socialist countries.<sup>7</sup>

Also, as Stankovsky notes:

Nowhere in Austrian laws or orders is reference made to Communist states, East-Block, state-trading countries, planned economies, or anything similar, so that these countries cannot refer to Austrian legislation as grounds for complaining that they are objects of discrimination.<sup>8</sup>

In 1975, except for textile products, Austria began removing its rather extensive system of discriminatory quantitative restrictions against imports from the Eastern European countries.<sup>9</sup> However, Austrian law still provides for three basic types of import protection that can be directed at imports from state-controlled economy countries. The first type of protection is the "Federal Law of June 24, 1971 Concerning Measures to Prevent Injuries to the Austrian Economy by Market-Disrupting Imports" (Anti-Market Disruption Law). The second type of protection resides in the Austrian customs regulations and procedures as applied to the Eastern European countries. Finally, the practice of informal, bilateral consultations, which the Austrians have resorted to fairly frequently, provides a third important tool for restricting disruptive imports.

The Anti-Market Disruption Law came into being when Austria revised its anti-dumping legislation to bring it into conformity with the GATT Anti-Dumping Code. The market disruption provisions of the old Austrian Anti-Dumping Law were extracted from the Law and formed the basis, with only minor changes, for the new Anti-Market Disruption Law. It has been suggested that the Anti-Market Disruption law was established in order to be able to deal with low-priced imports from state-controlled economies since in these cases it is often difficult to prove dumping. However, the law has been invoked against market as well as non-market economies—once in 1972 against Romanian calcium chloride, and once in 1976 against all suppliers of pantyhose.

The Austrian anti-market disruption law essentially permits the Austrian Government to set minimum prices for imported products which cause or threaten to cause serious material injury to an Austrian industry. It is very similar to an anti-dumping action except that the procedures for determining the establishment of a minimum price are different from those for determining a dumping margin. The Austrian law establishes the minimum price according to the following standards as applied in the following order:

- (1) The *price of goods quoted at stock exchanges*; or
- (2) If (1) is not available, *average representative Austrian export prices*; or
- (3) If (2) is not available, *average representative export prices of pertinent supplier countries*; or
- (4) If (3) is not available, *average home market prices of pertinent supplier countries*; or

<sup>7</sup> Jan Stankovsky, "Austria's Foreign Trade: The Legal Regulation of Trade with East and West," *Journal of World Trade Law*, Vol. 3, Number 6, November/December 1969, p. 628.

<sup>8</sup> *Ibid.*, p. 629.

<sup>9</sup> As of January 1, 1976, Austria completed this process of liberalization by removing its discriminatory quantitative restrictions on imports from Czechoslovakia.

(5) If (2) through (4) are not available, the *lowest Austrian export price*; or

(6) If (5) is not available, a *constructed price based on the Austrian export price of the closest possible product*.

The prices arrived at under methods (1) through (4) may not be more than 5 percent below the lowest Austrian export price (5) or the constructed export price (6). As can be seen, these provisions provide an effective means of raising the prices of potentially disruptive imports.

Perhaps of more potential significance to products from Eastern Europe is the Austrian customs procedure of issuing informal import permits for all industrial products and certain agricultural products of the Soviet Union and the Eastern European countries. Under this *ex ante* system, imports from these countries are subject to an import monitoring procedure. Importers of merchandise originating in these countries must submit in advance a copy of a commercial invoice or pro forma invoice to the Austrian Trade Ministry for clearance. The Trade Ministry may state on the invoice certain conditions under which the import can be presented to the customs authority for issuance of an informal import permit. This system provides substantial surveillance over imports and the potential to administratively inhibit, obstruct or delay the importation of goods. In fact, although the East Europeans have consistently praised the Austrians for abolishing their discriminatory quantitative restrictions, they have complained frequently about the so-called Austrian system of "visaing invoices".<sup>10</sup> Despite the potentially disruptive impact of these regulations, it is not known what quantitative significance they have had on Austria's trade with Eastern Europe, if any.

Finally, the Austrians have concluded (and this is a practice of long-standing) bilateral trade agreements with the Eastern European nations and the Soviet Union. These agreements usually include two important clauses. One clause states that sales shall be made at world market prices or, if not available, at comparable prices in important markets. The other clause is an escape clause which is usually worded as follows: if import liberalization or unforeseen developments result in disproportionate increases in imports of a product into the territory of the other contracting party, causing or threatening to cause material damage to manufacturers of like products, the affected party may discontinue the liberalization partly or wholly, if no agreement is reached in early consultations between the parties within five work days.<sup>11</sup>

The Austrians have also used informal bilateral consultations to deal with problems relating to disruptive imports. While available details are few, the Austrian press has reported from time to time that cases involving market disturbances (relating mostly to canned fruit, vegetables, and textiles) were handled in this fashion, and to the satisfaction of the Austrian Government. While the exact legal basis for these consultations is not clear, it is likely that the information supplied by the import monitoring system is used to establish some sort of a case. The bilateral consultation clauses and the mechanisms

<sup>10</sup> Economic Commission for Europe. "Consolidated Inventory of Administrative Restrictions in East-West Trade," TRADE/R. 336, October 1976 (Geneva: United Nations Economic Commission for Europe, 1976). Annex pages 1-109.

<sup>11</sup> For those countries which are GATT members (Poland, Hungary, Romania and Czechoslovakia) the Austrian trade agreements invoke the GATT escape clause and the relevant protocols of accession instead of the clause described above.

provided by the bilateral trade agreements no doubt supply methods under which to request consultations and a set of common obligations to invoke. Also, the existence of the Anti-Market Disruption Law could well provide an important incentive to conclude a mutually satisfactory agreement.

Generally, however, the Austrian Government has not actively pursued all the cries for protection that have originated from small and medium-sized producers. In fact, the Austrian Government has not taken an anti-dumping action against any country, since it revised its laws, much less against the Eastern Europeans. While the official reasons for a liberal trade policy are that low-priced imports help to keep inflation down and permit the effective restructuring of the economy, as much credit should be given to the importance of Austrian exports of manufactured goods to Eastern Europe.

The Austrians do pursue what would appear to be a relatively liberal trade policy with the Eastern European countries and the Soviet Union. However, Austria's somewhat higher tariff schedule and its agricultural restrictions provide a degree of generalized protection. At the same time, the provisions of the Austrian Anti-Market Disruption Law, and the Austrian tendency to successfully engage in informal bilateral consultations, combine to provide an effective system for limiting imports in situations where real damage to Austrian economic interests is threatened.

#### *United Kingdom*

The United Kingdom provides an opportunity to examine the practices of a country experiencing serious economic difficulties and balance of trade problems. The United Kingdom is also an EC member state and as such it will provide an example of how an EC nation can mesh its own import strategy with the Common Commercial Policy of the EC.<sup>12</sup> The United Kingdom uses three major tools to implement its policy: "voluntary" bilateral understandings; anti-dumping actions (which until June 30, 1977 were the responsibility of the British Government, and came under the authority of the EC after that date); and quantitative restrictions (which are partially under the authority of the EC).

Like the Austrians, the British are highly dependent upon foreign trade (United Kingdom total exports to the world equalled 19 percent of its GNP in 1975). But unlike the Austrians, the United Kingdom's total trade with the centrally-planned economies (CPE's) has usually averaged only around 3 percent of its trade with the world. Since 1972, the U.K. balance of trade with the CPE's has fluctuated considerably and more often than not has been in substantial deficit. Like the Austrians, the British partially offset a large deficit with the Soviet Union (due to heavy imports of raw materials) by exports of manufactured goods, largely to the Eastern European countries, but importantly as well to the Soviet Union and the PRC.

The size of the deficit with the Soviet Union is quite large, if one includes Britain's imports of non-industrial diamonds. Great Britain imported some \$200 million worth of Soviet diamonds in 1972; \$410

<sup>12</sup> Details of the scope of the EC authority over import policy will be fully discussed in the following section.

million in 1973; \$397 million in 1974; and \$380 million in 1975. These diamond imports raised the U.K. deficit with the CPE's from \$146 million to \$346 million in 1972; from \$50 million to \$460 million in 1973; from \$154 million to \$551 million in 1974; and from a surplus in 1975 of \$168 million to a deficit of \$212 million. However, rather than emphasize the diamond imports, it seems more reasonable to discount their contribution to trade deficits, since they are no doubt being re-exported at a profit to other areas of the world.

Setting aside the diamond trade, 1975 showed a definite improvement in the U.K. balance of trade with the CPE's. Between 1972 and 1975, the U.K. trade balance improved in six one-digit SITC categories for a total improvement of \$582.2 million; while in three SITC categories and the diamond imports, the U.K. trade balance deteriorated by only \$448.5 million. The largest gains occurred in SITC section 7 (machinery and transport equipment). In 1975, the top three divisions of British exports (non-electrical machinery, transport equipment, and electrical machinery) were all in section 7, and represented almost 47 percent of total U.K. exports to the CPE's. Of these top three exports, 52.0 percent (\$349.8 million) was destined for Eastern Europe, 31 percent (\$208.4 million) for the U.S.S.R., and 17.5 percent (\$117.8 million) for the PRC.

Six-month trade figures for 1976, however, present a less optimistic picture and show a decline in the British balance of trade with the Soviet Union of some 179 percent (inclusive of diamonds), but more importantly a decline in the British balance of trade with Eastern Europe of some 53 percent. In both cases, despite the fact that exports increased moderately, imports increased by a factor of 3-4 times the size of the increased exports.<sup>13</sup>

Interestingly, in 1975 the United Kingdom did not import much more from the CPE's in value terms than did Austria (\$1.3 billion—excluding diamonds—versus \$1 billion). However, the top fifteen British imports include such items as fabrics, clothing and footwear—all sensitive products. In fact, only six of the top fifteen U.K. imports are non-industrial items. In 1975 imports of manufactured goods (excluding the diamonds) equalled \$589.6 million or 46 percent of the U.K. imports, as contrasted to Austrian imports of manufactured goods equalling \$217.8 million or 22.5 percent of all Austrian imports.

In short, while the British exports of manufactured goods to the CPE's are sizeable, the pattern of British imports from the area, and the general condition of the British economy have made British trade with the CPE's a somewhat mixed blessing. (See Tables 6-10.)

TABLE 6.—UNITED KINGDOM'S TRADE WITH THE WORLD AND GNP

[In millions of dollars]

	1972	1973	1974	1975
Total trade with world.....	52, 197	69, 201	92, 935	97, 008
Exports to world.....	24, 343	30, 452	38, 703	43, 756
Imports from world.....	27, 854	38, 749	54, 232	53, 252
Balance of trade with world.....	-3, 511	-8, 297	-15, 529	-9, 496
United Kingdom's GNP.....	159, 240	180, 163	194, 722	231, 578

Source: OECD, "Monthly Bulletin of Trade Statistics," and IMF, "International Financial Statistics."

<sup>13</sup> Source: *Overseas Trade Statistics of the U.K.*, June 1975 and June 1976.

TABLE 7.—UNITED KINGDOM TRADE WITH CENTRALLY PLANNED ECONOMICS (CPE'S)

	[In millions of dollars]			
	1972	1973	1974	1975
Total trade with CPE's <sup>1</sup> .....	1,412	1,958	2,396	2,724
Exports to CPE's.....	633	954	1,121	1,446
Imports from CPE's <sup>1</sup> .....	779	1,004	1,275	1,278
Balance of trade with CPE's <sup>1</sup> .....	-146	-50	-154	+168

<sup>1</sup> Beginning in 1970, the United Kingdom stopped reporting diamond imports to the United Nations. Thus the U.N. figures do not include some \$200,000,000; \$410,000,000; \$397,000,000; and \$380,000,000 worth of imports of nonindustrial diamonds from the U.S.S.R. in 1972, 1973, 1974, and 1975 respectively. The figures below show the effect of diamond imports, and are based on figures reported in "Overseas Trade Statistics of the U.K."

Source: UN trade data, as reported by member countries on an SITC basis.

	1972	1973	1974	1975
Total trade with CPE's.....	1,612	2,368	2,794	3,103
Imports from CPE's.....	979	1,414	1,672	1,658
Balance of trade with CPE's.....	-346	-460	-551	-212

TABLE 8.—VALUE AND COMPOSITION OF 1975 UNITED KINGDOM TRADE WITH CPE'S

		[In millions of dollars]								
		Imports			Exports			Balance		
SITC	Description	EE	U.S.S.R.	PRC	EE	U.S.S.R.	PRC	EE	U.S.S.R.	PRC
0	Food and live animals.....	100.0	10.9	29.3	22.7	4.0	( <sup>1</sup> )	-77.3	-6.9	-29.3
1	Beverages and tobacco.....	1.9	.2	.1	5.4	.8	( <sup>1</sup> )	+3.4	+5	-.1
2	Crude materials (excluding fuel).....	111.3	234.9	38.5	42.5	18.0	11.5	-68.8	-216.9	-27.0
3	Mineral fuels and products.....	6.4	152.8	8.3	8.3	3.5	( <sup>1</sup> )	+1.9	-149.3	+( <sup>1</sup> )
4	Animal and vegetable oils.....	.2	1.0	.5	2.8	.4	-----	+2.5	-.7	-.5
5	Chemicals.....	41.9	21.1	12.5	146.3	82.0	8.3	+104.4	+60.8	-4.2
6	Manufactured goods by material.....	126.6	*437.9	31.4	167.1	103.4	36.0	+40.5	*-334.5	+4.6
7	Machinery and transport equipment.....	106.9	35.4	4.2	361.7	209.4	117.8	+254.9	+174.1	+113.7
8	Miscellaneous manufactured articles.....	127.5	12.0	12.2	52.8	37.4	3.6	-74.7	+25.5	-8.6
Totals.....		622.7	*906.2	128.7	809.6	458.9	177.2	+186.8	*-447.4	+48.6

<sup>1</sup> Figure is too small to appear in the rounding, but is not zero.

\* Includes diamond imports of \$380,000,000.

Source: U.N. trade data as reported by member countries.

TABLE 9.—UNITED KINGDOM IMPORTS FROM CPE'S IN 1975 RANKED BY VALUE

		[In thousands of dollars]			
Rank	SITC Description	Total	Percent of total by area		
			PRC	EE	U.S.S.R.
1	66 Nonmetallic mineral manufactures, n.e.s. <sup>3</sup> .....	1,415,046	( <sup>2</sup> )	4	96
2	24 Wood, lumber, cork.....	211,595	( <sup>2</sup> )	28	72
3	33 Petroleum and petroleum products.....	153,418	-----	1	99
4	01 Meat and meat preparations.....	67,462	20	83	( <sup>2</sup> )
5	71 Machinery, other than electric.....	65,811	1	84	15
6	26 Textile fibers.....	53,924	26	15	60
7	73 Transport equipment.....	53,485	4	65	30
8	68 Nonferrous metals.....	53,058	2	65	33
9	65 Textile yarns, fabrics, made-up articles.....	50,857	43	45	12
10	21 Hides, skins, and furskins, undressed.....	42,628	13	33	54
11	84 Clothing.....	39,422	4	96	( <sup>2</sup> )
12	85 Footwear.....	31,297	1	99	( <sup>2</sup> )
13	05 Fruits and vegetables.....	30,993	20	80	( <sup>2</sup> )
14	72 Electrical machinery apparatus and appliances.....	27,098	4	63	33
15	82 Furniture.....	25,876	1	99	( <sup>2</sup> )
Top 15 imports.....		1,321,970	-----	-----	-----
Total all imports from CPE's.....		1,657,727	-----	-----	-----

<sup>1</sup> Includes diamonds.

<sup>2</sup> Figure is too small to appear in rounding but is not zero.

<sup>3</sup> Not elsewhere specified.

Source: U.N. trade data, as reported by member countries.

TABLE 10.—UNITED KINGDOM EXPORTS TO CPE'S IN 1975 RANKED BY VALUE

[In thousands of dollars]

Rank	SITC	Description	Total	Percent of total by area		
				PRC	EE	U.S.S.R
1	71	Machinery other than electric.....	444, 571	12	58	30
2	73	Transport equipment.....	138, 103	40	20	41
3	72	Electrical machinery, apparatus and appliances.....	91, 931	10	70	20
4	67	Iron and steel.....	85, 783	7	46	48
5	65	Textile yarn, fabric, made-up articles.....	84, 613	5	43	52
6	51	Chemical elements, and compounds.....	74, 881	5	56	39
7	58	Plastic materials, regenerated cellulose, etc.....	55, 325	2	57	41
8	86	Professional, scientific, and controlling instruments.....	55, 241	6	52	42
9	59	Chemical materials and products, n.e.s. <sup>1</sup> .....	54, 929	1	71	28
10	26	Textile fibers.....	52, 979	22	53	26
11	68	Non-ferrous metals.....	49, 410	39	59	2
12	53	Dyeing, tanning and coloring materials.....	29, 862	7	57	36
13	69	Manufactures of metal, n.e.s.....	27, 557	1	75	24
14	66	Nonmetallic mineral manufactures, n.e.s.....	27, 542	21	69	10
15	54	Medicinal and pharmaceutical products.....	12, 062	5	83	12
Top 15 exports.....			1, 284, 789			
Total all exports to CPE's.....			1, 445, 734			

<sup>1</sup> Not elsewhere specified.

Source: U.N. trade data, as reported by member countries.

British import policy with respect to Eastern Europe and the Soviet Union has taken several turns during the post-war period. During the 1950's, Great Britain, like other Western European nations, assembled an extensive array of fixed discriminatory quantitative restrictions (QRs) against imports of agricultural and manufactured goods from Eastern Europe and the Soviet Union. During the 1960's the political climate warmed up considerably, and Great Britain, in advance of many Western European nations, began eliminating many of these quantitative restrictions. By the late 1960's, however, Great Britain's economic and balance of trade problems became increasingly apparent. The liberalizing trend was halted, and rising unemployment ultimately resulted in increasing complaints from trade unions to take import control measures, both generalized controls as well as controls specifically directed against communist imports. Between 1968 and 1970, Great Britain imposed an import deposit scheme. The current Labor Government, however, has strongly resisted suggestions to re-institute the import deposit scheme. Edmund Dell, Trade Secretary, during a parliamentary debate in October 1976, was quoted as saying:

If import deposits have any effect at all, they lead to foreigners helping to finance our balance of payments deficits and also have certain internal monetary effects. . . . It may be possible to protect the home market but what is impossible—if we are not going to invite retaliation—is the protection of our export markets. A great deal of employment in this country depends on those exports. The industries concerned are our most efficient and rapidly expanding industries.<sup>14</sup>

At the same time, Dell reported to the House of Commons that the Government was taking steps to strengthen its anti-dumping unit and speed up its processing of anti-dumping complaints. Dell indicated he was prepared to act in specific cases where cheap imports were disrupting a particular industry.<sup>15</sup> The following actions were taken against Eastern European and Soviet imports during 1976:

Quotas were imposed on suits from Eastern Europe;

<sup>14</sup> John Hunt, "Dell indicates tougher anti-dumping action," *London Financial Times*, October 19, 1976.<sup>15</sup> *Ibid.*

Quotas were imposed on woolen jackets from Czechoslovakia; Voluntary export restraints were negotiated with Czechoslovakia, Romania, and Poland on footwear imports;

Anti-dumping duties were assessed against Eastern European fiberboard and sugar beet harvesters, and against polyester fiber from Romania;

Romania's license to import synthetic men's shirts was revoked; and

Fines were imposed on U.K. importers illegally importing suits from Romania.

In 1975, Great Britain maintained quotas against some 343 separate listings of items from eight centrally-planned economies (Bulgaria, Hungary, Poland, Romania, Czechoslovakia, the U.S.S.R., the GDR, and the PRC). By far, the largest number of quotas was on clothing (119 items) and textiles (95), followed by fruits and vegetables (71), china and earthenware (23), transistorized television and radio receivers, tubes and semi-conductors (13), matches (12), and footwear (10).<sup>16</sup> Some of the British quantitative restrictions date back to the old system established during the 1950's. Others have been imposed recently utilizing the authority of the EC with respect to quantitative restrictions. Under the EC unilateral rules for imports which coordinate the QRs of EC member countries, Great Britain may liberalize its quotas (within certain limits) but may not institute any new ones, or reduce the volume or value of items permitted entry under existing QRs, without first going through an EC consultation procedure. However, such consultations are only necessary if requested by another member state or the EC Commission.

Under different statutes (the EC's common rules for imports from state-trading countries), Great Britain has taken emergency action against communist imports by imposing new quotas, and has received expedited consideration of its need to take emergency measures by the EC Commission. To illustrate how these different types of authority intermesh and how "voluntary" export restraints can sometimes add an extra dimension, we will examine the experience of Great Britain with suit imports from the communist countries. Beginning late in 1975, a large number of complaints were received by the U.K. Government from British industry about sharply increasing imports of low-cost men's woolen suits from Eastern Europe. Poland and Hungary agreed to voluntarily restrain their exports. The GDR, Romania and Czechoslovakia refused. Under the provisions for measures requiring urgent action, the U.K. applied to the EC to restrict the subject imports. Within a matter of days the procedure was completed and the QRs put into effect. Early in 1976 new imports of woolen jackets (presumably to circumvent the suit restrictions) began to come in from Czechoslovakia. This time the U.K. did not take the "fast-track" procedure, but went the more formal route as required by the unilateral rules for imports. Nevertheless, within a short time a new QR on woolen suits from Czechoslovakia went into effect.

The U.K. is a signatory to the GATT Anti-Dumping Code, and does not employ any unique anti-dumping regulations. As of July 1, 1977, the United Kingdom's authority over anti-dumping actions

<sup>16</sup> *Official Journal of the European Communities*, Vol. 18, No. 199, 21 April 1975.

passed on to the Commission of the EC. It was planned, however, that the anti-dumping unit in the Department of Trade would continue to function for the purpose of advising British industry and assisting the EC Commission. Consultations were undertaken during 1976 in order to anticipate problems which might arise and to facilitate the transition. There had been some speculation that the British would press for a more vigorous and legalistic application of anti-dumping regulations from the Community, which has in the past preferred to settle such problems "amicably", either by arriving at price understandings on the part of the exporter or through a dismissal of the case.<sup>17</sup>

In any event, the number of anti-dumping complaints has risen dramatically over the last year. This increase may be partly a result of a realization on the part of British industry that widespread, general import controls were not in the cards. It was estimated that about 50 percent of the anti-dumping complaints were against centrally-planned economies. The Eastern European and other centrally-planned economies would appear to be particularly vulnerable to anti-dumping charges since: these governments are unable to ascertain their actual production costs; their nonconvertible currencies deny accurate price comparisons; and because it is generally felt that a high degree of subsidization occurs in these economies. Late in 1976 the following cases were reported to be under review by the Department of Trade:

Paper from Romania;

Men's suits from Bulgaria, Czechoslovakia, the GDR, Hungary, Poland and Romania;

Horticultural glass from the Soviet Union, Czechoslovakia, the GDR, Romania, Hungary, and Poland;

Electrical motors and car light bulbs from the Soviet Union and all East European countries;

Domestic light bulbs from Poland, Czechoslovakia, and Hungary;

Men's suede shoes and children's sandals from Poland;

Printing presses and thermostats from the GDR; and

Copper sulfate from the Soviet Union.

As noted earlier, the U.K. has also resorted to "voluntary" export restraints. One of the better known examples of this occurred in early 1975 when there was a large increase in the number of imports of low-cost men's leather shoes coming from Poland, Czechoslovakia and Romania. Rather than proceeding with a formal action through the EC Commission, the U.K. chose to negotiate a "voluntary" agreement. In this case, all three countries agreed to restrict exports to the U.K. at levels that were some 5-10 percent below their levels in 1974. All three countries subsequently agreed to extend this "voluntary" agreement through the end of 1976.

A problem with all such so-called "voluntary" agreements is knowing how much is "voluntary" and how much is agreed to under threat of more severe action, such as a request for action from the EC, or proceeding with an anti-dumping case. Another criticism is that the results of such negotiations depend more upon the relative bargaining strength of parties than upon the merits of the case.

<sup>17</sup> H. Peter Dreyer, "Anti-Dumping Policy of EC May Change," *New York Journal of Commerce*, November 11, 1976.

Finally, it is very difficult to know, as these are informal agreements, what actually has been agreed upon. Nor is it possible to feel certain that one is aware of all existing "voluntary" agreements.

By late 1976 and early 1977, it had become apparent that the British strategy for economic recovery was one of seeking basic productivity gains in British industry, and in particular its export industries. The British Government sought to supplement this domestic economic strategy with an international trade strategy aimed at expanding British export markets. For example, as reported in the British press, for some time there had been significant grumblings about the slowness of the Soviets to draw down the 950 million pound line of credit extended by Great Britain over two years ago. Perhaps to counter Soviet arguments that British goods are not competitive in either price or delivery terms, Prime Minister Callaghan, late in December 1976, in an unprecedented diplomatic move, raised with the Soviet Ambassador official disappointment at this state of affairs.

It seems that, at least for the near term, the British will have to continue to mediate between the sometimes conflicting objectives of an export expansion policy and domestic pressures for increased protection. If their industry strategy succeeds, the pressures for increased protection should ease up some. However, if the export push falters, pressures for protection will continue to build. This will then be a problem not only for the government of the U.K., but also for the European Community, which in mid-1977 assumed competency over virtually all instruments that could be used to restrict imports.

#### *European Community (EC)* <sup>18</sup>

Having examined the case of one EC member state, let us now explore in detail the competence of the EC in matters relating to East-West trade. The European Community administers rules for imports from state-trading countries and different rules for imports from non-state-trading countries. It also is the competent body (in consultation with member states) with respect to anti-dumping, countervailing, and GATT safeguards actions. The Commission of the EC can extend community-wide surveillance over certain imports. It coordinates the unilateral rules for imports (bilateral quotas). It reviews bilateral economic cooperation agreements to be certain that such agreements do not circumvent or impinge upon the common commercial policy. The Commission has the sole authority to negotiate trade agreements. In fact, the only aspect of East-West trade not yet under the authority of the EC Commission is export promotion; and even in this area there are mechanisms for coordination, for example with respect to credit policies. The Commission of the EC, therefore, exercises a significant degree of control over trade policy generally and more particularly over the importation of products into the Community.

<sup>18</sup> There were originally three separate European Communities involving the same member countries: the EEC (European Economic Community or sometimes called the Common Market), the ECSC (European Coal and Steel Community), and EURATOM (European Atomic Commission). In 1967 these three organizations were combined under the authority of a single executive agency—the Commission of the European Communities. The initials EC, therefore, have come to represent the combination of the three groups, or more simply put, the unified concept of the Community—a term which is much broader in scope than the term Common Market. Throughout this paper, the initials EC will be used, except when referring specifically to authority deriving directly from the Rome Treaty which established the original European Economic Community (EEC).

The most important protective tools employed by the EC that directly affect the state-trading countries are: the common rules for imports from state-trading countries (which includes an import surveillance system), anti-dumping regulations, and the partial control exercised under the unilateral rules for imports whereby the EC has established common rules and procedures for member states which maintain discriminatory quantitative restrictions against the communist countries.

Together, the nine nations of the EC are highly dependent upon foreign trade (the exports of the EC to the world equalled 24 percent of combined EC GNP in 1974), but their total trade with the CPE's in 1975 only equalled about 5 percent of their total trade with the world. Data on the European Community since its enlargement in 1973 show the EC to have consistent and increasing surpluses with the CPE's (from roughly \$1.4 billion in 1973 to roughly \$5.3 billion in 1975), in contrast to a fluctuating deficit with the world as a whole. In 1975 the EC's major trading partner, both for imports and for exports, was the Soviet Union, with whom the EC was in surplus (\$1.8 billion). The EC surplus with Eastern Europe, however, was over a billion more (\$2.8 billion). Between 1973 and 1975, the EC's overall surplus with the CPE's increased by 284 percent, with the largest increases occurring in exports of chemicals (\$1.2 billion or 83 percent), manufactured goods classified chiefly by material (\$2.8 billion or 85 percent), and machinery and transport equipment (\$3.4 billion or 98 percent), more than offsetting the only really large increase that occurred in imports—mineral fuels and products (\$2.3 billion or 162 percent). (See Tables 11–15.)

TABLE 11.—EC TRADE WITH THE WORLD AND GNP<sup>1</sup>  
[In millions of dollars]

	1973	1974	1975
Total trade with world.....	425,920	568,667	596,041
Exports to world.....	210,689	275,099	295,988
Imports from world.....	215,231	293,568	300,053
Balance of trade with world.....	-4,542	-18,469	-4,065
EC GNP.....	1,065,142	1,167,252	1,381,545

<sup>1</sup> Data are not included here for 1972 since expansion of the Community to nine members did not occur until 1973.

Source: OECD, Monthly Bulletin of Statistics, and IMF, International Financial Statistics.

TABLE 12.—EC TRADE WITH CENTRALLY PLANNED ECONOMIES (CPES)<sup>1</sup>  
[In millions of dollars]

	1973	1974	1975
Total trade with CPE's.....	18,239	24,531	29,427
Exports to CPE's.....	9,805	13,929	17,343
Imports from CPE's.....	8,434	10,602	12,084
Balance of trade with CPE's.....	+1,371	+3,327	+5,259

<sup>1</sup> Data are not included here for 1972 since expansion of the Community to 9 members did not occur until 1973.

Source: U.N. trade data, as reported by member countries on an SITC basis.

TABLE 13.—VALUE AND COMPOSITION OF 1975 EC TRADE WITH CPE'S  
 [In millions of dollars]

SITC and description	Imports			Exports			Balance		
	EE	U.S.S.R.	PRC	EE	U.S.S.R.	PRC	EE	U.S.S.R.	PRC
0—Food and live animals.....	1,260.4	86.4	192.0	354.7	161.7	0.1	-905.7	+75.3	-191.9
1—Beverages and tobacco.....	63.9	8.0	9.2	62.0	10.5	.1	-1.9	+2.5	-9.1
2—Crude materials (excluding fuels).....	588.9	875.2	220.4	303.5	52.9	20.6	-285.4	-822.3	-199.8
3—Mineral fuels and products.....	1,300.4	2,362.2	1.7	258.2	17.0	.2	-1,042.2	-2,345.2	-1.5
4—Animal and vegetable oils.....	52.6	111.5	9.0	103.7	13.5	.3	+51.1	-98.0	-8.7
5—Chemicals.....	440.7	192.4	80.1	1,642.7	589.8	194.5	+1,202.0	+397.4	+114.4
6—Manufactured goods by material.....	1,278.4	404.1	175.4	3,132.9	2,368.5	563.4	+1,854.5	+1,964.4	+388.0
7—Machinery and transport equipment.....	739.2	158.2	6.2	3,586.6	2,665.1	624.4	+2,847.4	+2,506.9	+618.2
8—Miscellaneous manufactured articles.....	1,322.3	34.4	111.0	434.0	163.8	18.7	-888.3	+129.4	-92.3
Totals.....	7,046.8	4,232.4	805.0	9,878.3	6,042.8	1,422.3	+2,831.5	+1,810.4	+617.3

Source: U.N. trade data, as reported by member countries.

TABLE 14.—EC<sup>1</sup> IMPORTS FROM CPE'S IN 1975, RANKED BY VALUE

[In thousands of dollars]

Rank	SITC	Description	Total	Percent of total by area		
				PRC	E.E.	U.S.S.R.
1	33	Petroleum and petroleum products .....	2,330,732	(?)	13	87
2	32	Coal, coke, and briquettes .....	1,007,426	-----	80	20
3	24	Wood, lumber, and cork .....	590,584	1	39	61
4	66	Nonmetallic mineral manufactures, n.e.s. <sup>4</sup> .....	<sup>3</sup> 580,427	1	19	70
5	84	Clothing .....	536,332	6	94	(?)
6	01	Meat and meat preparations .....	511,287	12	87	1
7	67	Iron and steel .....	386,224	(?)	81	19
8	71	Machinery other than electric .....	383,161	(?)	87	13
9	68	Nonferrous metals .....	373,574	8	48	44
10	51	Chemical elements and compounds .....	342,974	9	54	37
11	65	Textile yarn, fabrics, made-up articles .....	313,754	32	59	9
12	26	Textile fibers .....	298,961	27	14	59
13	05	Fruits and vegetables .....	282,162	25	71	3
14	00	Live animals .....	238,839	-----	94	6
15	73	Transport equipment .....	233,680	1	62	37
Total top 15 imports .....			8,410,117	-----	-----	-----
Total all imports from CPE's .....			12,084,430	-----	-----	-----

<sup>1</sup> Does not include Irish trade data.<sup>2</sup> Figure is too small to appear in rounding but is not zero.<sup>3</sup> Includes United Kingdom diamond imports.<sup>4</sup> Not elsewhere specified.

Source: U.N. trade data, as reported by member countries.

TABLE 15.—EC<sup>1</sup> EXPORTS TO CPE'S IN 1975 RANKED BY VALUE

[In thousands of dollars]

Rank	SITC	Description	Total	Percent of total by area		
				PRC	E.E.	U.S.S.R.
1	71	Machinery, other than electric .....	4,461,650	7	49	43
2	67	Iron and steel .....	3,442,267	12	34	55
3	73	Transport equipment .....	1,206,687	20	44	37
4	72	Electrical machinery, apparatus, and appliances .....	891,459	8	62	30
5	51	Chemical elements and compounds .....	854,439	10	61	29
6	65	Textile yarn, fabrics, made-up articles .....	742,075	2	69	29
7	58	Plastic materials, regenerated cellulose, etc. ....	472,256	5	64	31
8	69	Manufactures of metal, n.e.s. <sup>2</sup> .....	379,884	13	72	15
9	59	Chemical materials and products, n.e.s. <sup>2</sup> .....	322,054	3	73	24
10	68	Nonferrous metals .....	296,110	28	65	7
11	86	Professional, science and controlling instruments .....	227,184	7	62	31
12	66	Nonmetallic mineral manufactures .....	172,326	5	81	14
13	4	Cereals and cereal preparations .....	171,249	-----	77	23
14	26	Textile fibers .....	130,073	13	73	14
15	56	Fertilizers, manufactured .....	100,275	52	35	13
Total top 15 exports .....			13,869,988	-----	-----	-----
Total all exports to CPE's .....			17,343,423	-----	-----	-----

<sup>1</sup> Does not include Irish trade data.<sup>2</sup> Not elsewhere specified.

Source: U.S. trade data, as reported by member countries.

The major items imported by the EC in 1975 included a number of import sensitive items in two major categories—textiles and agricultural products. These are in fact the items experiencing the highest degree of restriction on entering the EC market. In only one instance—textile yarns, fabrics and made-up articles—did the value of EC exports exceed the value of imports.

## EC RELATIONS WITH THE STATE-TRADING COUNTRIES

The history of EC relations with the state-trading countries has been very complex. Article 113 of the Rome Treaty establishing the EEC stipulates that the Council shall authorize the Commission to open trade negotiations with third countries.<sup>19</sup> At the time, the state-trading countries, following the active lead of the Soviet Union, did not recognize the EEC as an entity at all. An exception was therefore granted by the Commission for member states to continue to negotiate bilateral trade agreements and maintain quantitative restrictions against the state-trading countries. This exception was continued until the end of 1974, when most existing bilateral agreements between individual member states and the state-trading countries expired. Since that time the EC has maintained that only the Community has the authority to negotiate such agreements, and that existing EC regulations (i.e., common rules for imports from state-trading countries, rules regarding QRs, anti-dumping rules, etc.) provide the basis for trading with the state-trading countries.

One result of the lapse and non-replacement of the bilateral trade agreements was that in early 1976 the EC sought, for the first time ever, safeguards relief as provided for in the Polish, Hungarian and Romanian GATT protocols of accession. The products involved were light bulbs and small motors. By the end of 1976, consultations with these countries had proved "satisfactory" to the EC. This action was probably taken as a test of the protocols; and it obviously proved successful.

## THE EC'S DUAL SYSTEM OF RULES FOR IMPORTS

The EC regulations on common rules for imports (from non-state-trading, non-EC countries), Regulation (EEC) No. 1439/74, of June 4, 1974,<sup>20</sup> establishes a community-wide safeguards type of system. It, and the common rules for imports from state-trading countries, Regulation (EEC) No. 109/70, of December 19, 1969,<sup>21</sup> provide the legal basis for either taking action or seeking consultations under the GATT safeguards clauses, as well as for taking action against non-GATT countries. The general import system will be described in detail first, since the system of common rules for imports from state-trading countries differs only in selected procedures.

The general rules for imports establish a system under which action can be taken at two levels. At the first level, items threatening to "cause injury to a community producer of like or directly competing products" (Article 7), can be put under a community-wide surveillance system. When a product has been placed under surveillance, it can only enter into free circulation upon production of an import document. This document must supply information about the name

<sup>19</sup> The Commission of the EC is responsible both for proposing EC regulations, directives and decisions, as well as for implementing such measures. The Council of the EC approves or disapproves (but may not amend) Commission proposals. Voting in the Council is by a weighted formula and most decisions not requiring amendment of the Rome treaty are taken by a qualified majority. However, the Council has not taken a formal vote in about ten years.

<sup>20</sup> *Official Journal of the European Communities*, No. L159, of June 15, 1975.

<sup>21</sup> *Official Journal of the European Communities*, No. L19, of January 26, 1970.

and address of the importer; a description of the product, including tariff headings, country of origin and country of consignment; the c.i.f. price and the quantity (in units customary to that product); and the dates and places of importation. Such documents are to be issued free of charge by any member state, in any quantity requested, within five working days of submission of a request by a community importer. Member states are thereafter required to provide monthly statistics, within the first ten days of each month, on sums of monies and quantities of goods for which import documents were issued for the month. This information must be broken down by product and by country. Community-wide surveillance is not employed too frequently, for example, in early 1977 only two products were under surveillance: electronic calculators; and slide fasteners.

The second level of action permits protective measures to be taken. Such measures may be taken "where a product is imported into the community in such greatly increased quantities and/or on such terms or conditions as to cause, or threaten to cause substantial injury to community producers of like or directly competing products" (Article 12). The product may, but need not, have been previously subject to surveillance. Under such conditions, the EC can limit the period of validity of import documentation, or alter the import rules to require import documentation which will be granted only under certain conditions as set out by the Commission and which will then require subsequent approval by the Council. Such actions can be limited to imports intended for specific regions of the Community and may not be imposed on goods already in transit. The EC is empowered either to prevent the importation in such greatly increased quantities and/or under such terms or conditions as to cause or threaten to cause substantial injury, or to seek fulfillment of the rights and obligations of either the Community or its member states at the international level. Where the establishment of a quota would constitute a retreat from liberalization, the following should be taken into account: the desirability of maintaining traditional trade flows; the volume of goods exported prior to the protective measure being taken; and the avoidance of jeopardizing the aim which required the establishment of the quota in the first place.

Action may be initiated at the request of a member state or upon the initiative of the Commission. When requested by a member state, the Commission has five working days to reach a decision. This decision is then transmitted to the Council and all the member states. Within ten working days after taking interim measures (which the Commission can do immediately once it makes a decision) the Commission must present its recommendations as to the appropriate course of final action, which the Council must then approve or disapprove. If the Council does not take action on the Commission proposal within six weeks after the interim measures were initiated, such measures will be revoked. With respect to limiting the period of validity of an import document, the Commission can make the final determination, unless the matter is specifically referred to the Council by a member state.

As mentioned in the section on the U.K., under these statutes there is provision for member states to take emergency action on their own behalf. Such action, however, can only continue if it is not

revoked by the Council, which must take action within two months after the matter was referred to it. In practice, the EC has permitted most cases of emergency action initiated by member states.

As can be seen, while the procedures for taking action are painstakingly detailed, the actions themselves are neither described, listed, nor circumscribed, except by the provisions in the preambulatory material which state that the Commission should submit proposals which have regard for international obligations, and that actions against GATT countries must conform to GATT practice.

The system with respect to state-trading countries is a parallel system, i.e., it provides both for surveillance and remedial action as well as setting out the procedures for taking action. Differences in detail, however, do occur. The provisions requiring prior consultation before initiating surveillance or taking protective action are slightly different with respect to state-trading countries. Under certain circumstances, consultations can be called in four, not eight days. The criterion for initiating surveillance is also different. Surveillance may be initiated "where community interests so require" (vice "threaten to cause injury"). The import document requires much the same information except that it must include the country of export (not consignment) and the total *and* per unit c.i.f. price. However, instead of an automatic license as in the case of non-state-trading countries, the granting of a license to an import from a state-trading country is not automatic when "community interests so require" and when an injury situation is likely to arise. The import license can carry a limited period of validity, or it can be issued only subject to "certain conditions", which are unspecified. In short, products can be placed under surveillance when the community interests dictate and, in potential injury situations, import licenses need not be automatically granted. Reporting obligations for the member states are the same in both cases.

Protective measures are initiated in response to basically the same criteria as employed in the common rules for imports (substantial injury or threat thereof—see the definition in the preceding paragraph). Protective measures are to be the granting of an import license only under conditions set down by the Commission pending decision by the Council. The notification and ratification procedures are the same as for non-state-trading countries. The provisions for individual states taking emergency action are the same. The state trading measures do not specify that the Commission may recommend seeking relief at the international level, nor do they specify that any special considerations such as traditional trade flows need to be taken into account. Reference is made, however, in the preambulatory material to "due regard for existing international obligations".

#### EC ANTI-DUMPING REGULATIONS

The European Community administers anti-dumping and countervailing duty regulations on a community-wide basis. These regulations,<sup>22</sup> drawn up in 1968, follow closely the provisions of the GATT Anti-dumping Code which was completed in 1967. For purposes of the EC regulations (as well as in Article VI of the GATT) anti-

<sup>22</sup> Regulation (EEC) No. 459/68 of April 5, 1968, *Official Journal of the European Communities*, No. L93 of April 17, 1968.

dumping and countervailing both involve the criteria of "material injury". Some detail will be provided at this point in the paper since the EC provisions conform closely to those of the GATT thus providing a basis for later comparison with U.S. practice.<sup>23</sup>

In the case of anti-dumping the fact of dumping, must be established. Dumping occurs when a product is exported at a price less than the price of that product when sold in the ordinary course of trade for consumption in the domestic market of the exporting country. This requires some very specific definitions as to what constitutes a like product; and how to make the evaluation of price in cases where it appears that the export price is unreliable (such as in the case of compensation agreements between exporters and importers), where there are no sales in the domestic market of the exporting country, or where it appears that prices in the domestic market of the exporting country do not permit a proper comparison.

Since price comparisons are notoriously difficult to make (some would say impossible) when dealing with a centrally-planned economy, the EC regulations provide for this situation. While the law itself does not spell out exactly what shall be done, the administrative interpretation is that comparison may be made with either the export price or the production price of a market economy.<sup>24</sup>

A determination of injury can only be made when dumped imports are demonstrably the principal cause of material injury (or threat thereof, or materially retard the establishment of an industry). A long list of factors to be taken into account when determining injury is set out, including: turnover, market share, profits, prices, export performance, employment, volume of dumped and other imports, capacity utilization, productivity, restrictive trade practices, as well as volume and prices of undumped imports, competition within the industry, contraction in demand due to substitution of other products and changes in consumer tastes.

The definition of industry is also quite detailed. Since the Community considers itself to be a single, unified market, it is not sufficient to prove injury only in a national market. Such injury must be community-wide to producers of like or directly competitive products. However, in certain circumstances—when, due to transportation costs or other factors, several regional markets actually exist—injury need only apply in the specific regional market.

Any legal or material person can act on behalf of an industry and lodge a complaint. The complaint must be submitted in writing either to a member state or to the Commission of the EC. The complaint must cite basic information such as a description of the allegedly dumped product and the exporting country, as well as offer evidence of both dumping and injury. Most complaints are first filtered through the governments of the member states. Upon receipt of a valid complaint, either from a member state or community producer, the Commission, in cooperation with the member states, commences an investigation of both dumping and injury charges. Information is gathered from all interested parties, written submissions are accepted,

<sup>23</sup> For a detailed description of the EC anti-dumping regulations, see J. F. Breseler, "EC Protection against Dumping and Subsidies from Third Countries", *Common Market Law Review*, Vol. 6, No. 3, July 1969.

<sup>24</sup> *Debates of the European Parliament*, sitting of Wednesday, February 11, 1976, p. 117.

and parties directly interested can request the opportunity to express their views orally, as well as to meet with those holding opposing viewpoints.

The anti-dumping duty (whether provisional or otherwise) is not to exceed the margin of dumping (the amount of price discrimination) and can be less if a lower duty would remove the injury. Anti-dumping duties are to be levied on a non-discriminatory basis on all imports found to be dumped. No action need be taken by the Commission unless dumping has been proved, injury has been determined, and *Community* interests have been deemed to be involved. The latter provision supplies a considerable amount of flexibility and permits general economic interests to be taken into account.

Price undertakings by exporters which would eliminate the dumping margin can be and often are accepted. For the exporter's protection, the investigation can be continued, if the exporter so requests it. Table 16 summarizes the anti-dumping activity of the EC between 1970 and 1975.

TABLE 16.—SUMMARY OF EC ANTIDUMPING ACTIVITY REPORTED TO GATT, 1970-75

	1970-71	1971-72	1972-73	1973-74	1974-75
1. Cases pending as of beginning of period (July).....	3	1	6	3	1
2. Investigations opened.....	2	11	4	2	.....
3. Cases on which provisional action was taken.....	.....	.....	.....	.....	.....
4. Cases on which final decision was reached:					
(i) Antidumping duties imposed.....	.....	.....	.....	.....	.....
(ii) Cases settled through "arrangements".....	3	3	8	3	.....
(iii) Cases dismissed.....	.....	1	.....	1	1
5. Revocation of antidumping duties.....	.....	.....	.....	.....	.....
6. Cases pending as of end of period (June).....	5	8	3	1	.....

Source: GATT, "Basic Instruments and Selected Documents", supplements 18, 19, 20, 21, and 22.

The most striking thing that stands out about EC anti-dumping policy is the relatively few cases which have actually resulted in dumping duties being assessed. In fact, the provisional negative dumping finding in February of 1977 against Japanese ball bearings was only the second such finding in the nine years since the new regulations were put in place.<sup>25</sup> On the whole, the EC prides itself on settling such complaints, where a case could be proved, through price agreements on the part of the exporter.

The EC regulations for countervailing duties reside in the same regulation as those for anti-dumping and share identical administrative procedures, as well as the same criteria for injury. However, the countervailing duty regulations do not specify (as do the anti-dumping regulations) how causality is to be proved. The regulations provide that countervailing duties may be applied against products which have benefited from bounties or grants in their countries of origin or export. The amount of such a duty is not to exceed (but may be less than) the amount of the subsidy, bounty or grant. No countervailing duty actions have been taken by the EC.

<sup>25</sup> The other case was a dumping finding against bicycle chains and motor cycles from Taiwan in November of 1976. See "EEC Anti-Dumping Action Is Second in Nine Years," *Commerce America*, February 21, 1977.

## QUANTITATIVE RESTRICTIONS

The authority over discriminatory quantitative restrictions against communist countries is divided between the EC and its member states. Currently the products which may be imported without restraints in any member state include 929 entire tariff positions and 63 partial tariff positions out of a total of 1,097 tariff positions listed under the Common Customs Tariff (CCT). Once a product is no longer controlled by any member state, it is added to the community-wide liberalization list. For those products not entirely liberalized (108 full headings) the import rules can vary from one member state to the next.

Between 1970 and 1975 the EC has increasingly tightened its authority over quantitative restrictions maintained against state-trading countries. Citing the need to coordinate unilateral import arrangements pending the initiation of trade negotiations with these countries, the EC Council regularly publishes lists of the existing bilateral QRs.<sup>26</sup> National quotas not included in the published Community lists must be held at the highest levels reached in one of three preceding years. Quotas by member states included in the lists published by the EC can be increased by 20 percent without any need to consult the Community. New quantitative restrictions can be imposed only after procedures set forth in the common rules for imports have been taken.

In 1975 for example, the bilateral quotas listed by the EC numbered a total of some 1,570 different restrictions against the following state-trading countries:

Albania.....	47	Czechoslovakia.....	269
Bulgaria.....	213	USSR.....	105
Hungary.....	219	GDR.....	140
Poland.....	238	PRC.....	88
Romania.....	247	N. Korea.....	4

Some of these restrictions can be quite unspecific, such as a restriction by Denmark against all non-liberalized products from Albania, not to exceed 1 million Danish Kroners; or the restriction by France against miscellaneous manufactured goods from Hungary (listing no tariff heading), not to exceed 6 million French francs.

The Community has set forth measures to guide nations with respect to their bilateral quotas. Technically these have not resulted in any derogation of national authority to the Community. While in most cases it has proved easy to obtain the approval of the EC to amend these quotas, the discretion available to the member states may be more illusory than real. For example, in late 1974, France proposed to unilaterally liberalize certain products of unwrought aluminum, certain products covered by the multifiber arrangement (MFA) and a number of linen goods not covered under the MFA, originating in state-trading countries. The Commission decided unfavorably in all three cases. In the case of the aluminum products it recommended that only interim measures be undertaken, given the condition of the Community's aluminum industry. It also objected strenuously to the liberalization of the textile products because

<sup>26</sup> Council decision of March 27, 1975, on unilateral import arrangements in respect of state-trading countries, (75/210/EEC), *Official Journal of the European Communities*, No. L99, of March 21, 1975.

negotiations were ongoing with the countries in question under the MFA, and the Commission did not want their negotiating position undercut by unilateral French action. In the third case (linen goods not covered by the MFA), the EC disapproved because the products involved were products under restriction in every member state and unilateral French liberalization would have "conflicted with the goal of harmonization of import arrangements".<sup>27</sup> More recently, extensive negotiations between the West Germans and the rest of the EC resulted in West Germany being given permission to exceed quotas (import more) on the outer processing of textile goods on a case-by-case basis. In return, German quotas on these products were to be held at lower levels than for other members of the Community.<sup>28</sup>

#### THE EC'S COMMON EXTERNAL POLICY

Since the early 1970's there has been an increasing tendency on the part of the member states of the EC to negotiate long-term (usually of 10 years in duration) bilateral "economic cooperation" agreements with the state-trading countries. Since these are technically not trade agreements, this is perfectly legal. These economic cooperation agreements attempt to foster trade by listing potential areas for industrial cooperation, facilitating exchanges of information, and generally promoting business interests. In the course of negotiations, a country may well agree to liberalize some of its QRs. This is a complex issue, for while the EC is trying to strengthen and complete its authority over trade regulations generally, the lack of any current bilateral trade agreements and the dynamics causing an increase in industrial cooperation and compensation arrangements have the potential to erode the Community's authority, with respect to the common commercial policy.

This is an over-statement of the situation, however, and takes no account of the considerable amount of control already exercised in the area of imports. Further, a Council decision<sup>29</sup> of July 22, 1974 (74/393/EEC) requires that member states inform the Commission and the other member states of any proposed economic or industrial cooperation agreements with third countries, or any measures proposed as parts of such agreements (such as protocols), or any renewals of such agreements. Where appropriate, this is to be done prior to actual bilateral negotiations. Intra-EC consultations can be called at any time on these measures at the initiative of a member state or the Commission. Such consultations are held to ensure that all agreements are consistent with common policies, to encourage coordination among member states and to ascertain if the EC itself (the Commission) should take unilateral measures to promote cooperation projects. Member states are instructed to ensure that cooperation agreements do not conflict with their obligations as member states of the EC.

While the EC has not been able to establish total (and some would say effective) control over such agreements, it has on occasion been able to have especially objectionable clauses removed. During the course of German-Polish negotiations on an economic cooperation agreement, the Poles requested that the West Germans grant special tariff and quota exceptions to goods produced in cooperation projects.

<sup>27</sup> Answer to written question No. 6/75, by Mr. Bordu, to the Commission of the EC.

<sup>28</sup> "CMEA Import Quotas," *East-West Markets*, January 24, 1977, p. 4.

<sup>29</sup> *Official Journal of the European Communities*, No. L208 of July 30, 1974.

The Germans were reported as willing to do so but declined in the face of an EC protest. Clearly, the tariff portion of that request would have violated the common external tariff, and quota liberalization would have been subject to EC consultation and approval.<sup>30</sup>

National security, political, and economic goals, all jostle and bump against the authority of the EC. Despite the attempt to preserve the appearance of a unified front at all times, national policy goals usually take precedence over EC harmonization policies that conflict with the perceived national interest. It should be remembered that while the EC Commission proposes regulations which the EC Council may not amend, in point of fact the Commission always seeks a consensus first and very rarely offers a package that does not have sufficient support to be passed.<sup>31</sup>

Nevertheless, with respect to East-West trade, there is no great divergence of national interests, at the present time, among the member states of the Community. The various nations, of course, want to be able to compete for access to Eastern European and Soviet markets. However, access to Eastern markets would presumably not be affected by the EC eventually becoming the negotiator for either traditional trade-type or economic cooperation-type agreements. It would simply make such access available on a community-wide basis. In addition, the EC member states want to be assured of effective protection against injurious imports. A common system in this respect is firmly in place. The EC has proved that even in the absence of bilateral trade agreements it can: (1) take GATT safeguards actions; (2) exercise surveillance and control over imports from state-trading countries; (3) implement anti-dumping regulations; (4) coordinate member countries' bilateral quotas; and (5) review long-term economic cooperation agreements.

### *The United States*

The value of U.S. trade with the centrally-planned economies has not been on the same order of magnitude as the value of East-West trade conducted by the nine members of European Community. For example, in 1975 U.S. total trade with the CPE's equalled about 13 percent of the EC total trade with the CPE's in that year. Also in 1975, U.S. imports from the CPE's equalled about 7 percent of the total imports from the CPE's absorbed by the EC, and the value of imports into the United States was even lower than the value of imports absorbed by either the U.K. or Austria.

Nevertheless, the concern over providing adequate protection against imports from communist countries has been a persistent theme in American legislative history dating from the depression era when the Soviet Union was hotly accused, and with some justification, of dumping grain and other commodities in the United States. The United States' collection of tools to provide import protection include: the general escape clause; anti-dumping and countervailing duty provisions; and a market disruption provision which applies

<sup>30</sup> H. Peter Dryer, "EEC States Cling to East Deals," *New York Journal of Commerce*, December 11, 1974.

<sup>31</sup> For an excellent description of the politics of arriving at an implementing external policy, see Chapter 2 of Werner Feld, *The European Community in World Affairs*, (N.Y.: Alfred Publishing Company), 1976 pp. 17-32.

solely to communist countries.<sup>32</sup> Additionally, bilateral market disruption clauses have also been negotiated in several trade agreements, as required by the Trade Act of 1974. Furthermore, the continued denial of MFN to certain communist countries (Hungary, Czechoslovakia, the German Democratic Republic, Bulgaria, the U.S.S.R., and the People's Republic of China) affords a degree of protection with respect to imports of manufactured goods. While the United States has been reluctant to grant MFN, it does not maintain a system of discriminatory quantitative restrictions, as do most European nations which have granted MFN to the communist countries.

Despite the small portion of U.S. trade represented by trade with the CPE's, this trade has consistently yielded a significant surplus for the United States. But the U.S. trade with the CPE's, unlike that of the European countries, is dominated by a large surplus in the agricultural sector. In fact, U.S. exports to the area are almost bimodal, that is concentrated largely in the categories of food (\$1,571.3 million in 1975), and machinery and transport equipment (\$885.8 million in 1975). Imports from the CPE's to the United States on the other hand are concentrated in three areas—manufactured goods classified chiefly by material (\$249.8 million), fuels (\$182.2 million), and food (\$158.5 million) in 1975.

This contrasts with the European pattern which usually records Western deficits in SITC categories 0 through 3 (foods and raw materials), which are more than offset by Western surpluses in categories 5 through 7 (chemicals and various manufactured articles). Given these differences in the pattern of trade, it is not surprising that the Europeans have been restrictive with respect to agricultural imports and aggressive in promoting exports of manufactured goods. In contrast, the United States with its large agricultural and high technology surpluses and the correspondingly lower significance of its exports of general manufactured goods has had less built-in resistance to domestic pressures for protection.

In general, the Europeans have more to lose in terms of profitable exports through a restrictive import policy than does the United States. The difference in dollar volume involved—\$17 billion worth of exports for the EC in 1975 versus \$3 billion worth of exports for the United States, or almost \$16 billion worth of manufactured goods exports versus slightly more than \$1 billion for the United States—highlights the disparity. In fact, in 1975, the United States exported to the CPE's slightly less in manufactured goods categories (SITC sections 5-8) than did Austria.

Raw materials and semi-processed items do not dominate the U.S. list of top 15 imports from the CPE's, to the extent that they do for the European countries, and these places are taken in some instances by import sensitive manufactured goods: textile yarns, miscellaneous manufactured articles, clothing and footwear. And only in the case of textile yarns are exports in that category larger than imports. (See Tables 17-21.)

<sup>32</sup> The authority for the escape clause is contained in Title II of the Trade Act of 1974; anti-dumping is in the Anti-dumping Act of 1921 as amended (c.f. Section 321 of the Trade Act of 1974); countervailing is in the Tariff Act of 1930 as amended (c.f. Section 331 of the Trade Act of 1974); and market disruption is in Section 406 of the Trade Act of 1974.

TABLE 17.—U.S. TRADE WITH THE WORLD AND GNP

[In millions of dollars]

	1972	1973	1974	1975
Total trade with world.....	105,231	140,435	199,478	204,592
Exports to world.....	49,676	71,314	98,506	107,652
Imports from world.....	55,555	69,121	100,972	96,940
Balance of trade with world.....	-5,879	+2,193	-2,466	+10,712
U.S. GNP.....	1,171,100	1,305,600	1,413,200	1,516,300

Source: OECD, "Monthly Bulletin of Statistics", and IMF, "International Financial Statistics."

TABLE 18.—U.S. TRADE WITH CENTRALLY PLANNED ECONOMIES

[In millions of dollars]

	1972	1973	1974	1975
Total trade with CPE's.....	1,219	3,039	3,239	3,970
Exports to CPE's.....	877	2,481	2,234	3,081
Imports from CPE's.....	342	558	1,005	889
Balance of trade with CPE's.....	+535	+1,923	+1,229	+2,192

Source: "U.S. Trade Status with Communist Countries," U.S. Department of Commerce.

TABLE 19.—VALUE AND COMPOSITION OF 1975 U.S. TRADE WITH CPE'S

[In millions of dollars]

SITC and description	Imports			Exports			Balance		
	EE	U.S.S.R.	PRC	EE	U.S.S.R.	PRC	EE	U.S.S.R.	PRC
0—Food and live animals.....	413.8	0.4	14.3	458.4	1,112.9	( <sup>1</sup> )	+314.6	+1,112.5	-14.3
1—Beverages and tobacco.....	19.4	.9	1.8	8.4	.6		-11.0	-.3	-1.8
2—Crude materials (excluding fuels).....	10.1	41.4	17.6	137.1	29.5	100.1	+127.0	-11.9	+82.5
3—Mineral fuels and products.....	86.0	96.2		18.0	3.2	.2	-68.0	-93.0	+2
4—Animal and vegetable oils.....	2.3	.2	1.9	14.2	14.0	( <sup>1</sup> )	+11.9	+13.8	-1.9
5—Chemicals.....	21.4	6.1	15.9	39.6	44.4	5.3	+18.2	+38.3	-10.6
6—Manufactured goods by materials.....	73.1	97.3	79.4	26.5	52.4	73.8	-46.6	-44.9	-5.6
7—Machinery and transport equipment.....	50.0	5.2	.3	220.0	547.0	118.8	+170.0	+541.8	+118.5
8—Miscellaneous manufactured articles.....	67.4	5.3	25.6	18.3	26.4	5.0	-49.1	+21.1	-20.6
Totals.....	473.5	253.0	156.8	940.5	1,830.4	303.2	+467.0	+1,577.4	+146.4

<sup>1</sup> Figure is too small to appear in rounding, but is not zero.

Source: "U.S. Trade Status with Communist Countries", U.S. Department of Commerce.

TABLE 20.—U.S. IMPORTS FROM CPE'S IN 1975, RANKED BY VALUE

[In thousands of dollars]

Rank	SITC	Description	Total	Percent total by area		
				PRC	E.E.	U.S.S.R.
1	33	Petroleum and petroleum products.....	178,224		47	53
2	1	Meat and meat preparations.....	128,674	.1	.99	
3	68	Nonferrous metals.....	123,794	34	1	66
4	65	Textile yarns, fabrics, and made-up fabrics.....	42,238	78	21	1
5	71	Machinery other than electric.....	37,633	( <sup>1</sup> )	87	13
6	28	Metalliferous ores and metal scrap.....	35,359	7	1	92
7	66	Nonmetallic mineral manufactures.....	33,315	10	47	43
8	89	Miscellaneous manufactured articles, n.e.s. <sup>2</sup> .....	32,001	46	39	15
9	67	Iron and steel.....	30,478	1	99	( <sup>1</sup> )
10	84	Clothing.....	26,410	33	67	( <sup>1</sup> )
11	85	Footwear.....	25,342	5	95	( <sup>1</sup> )
12	51	Chemical elements and compounds.....	19,336	16	69	15
13	12	Tobacco and tobacco compounds.....	19,261	9	91	( <sup>1</sup> )
14	69	Manufactures of metal, not elsewhere specified.....	15,052	5	95	( <sup>1</sup> )
15	73	Transport equipment.....	14,577	1	97	2
		Total top 15 imports.....	761,694			
		Total all imports from CPE's.....	889,320			

<sup>1</sup> Figure is too small to appear in rounding, but is not 0.<sup>2</sup> Not elsewhere specified.

Source: U.S. Census Bureau, FT155.

TABLE 21.—U.S. EXPORTS TO CPE'S IN 1975, RANKED BY VALUE

[In thousands of dollars]

Rank	SITC	Description	Total	Percent total by area		
				PRC	E.E.	U.S.S.R.
1	4	Cereals and cereal preparations.....	1,456,250		24	76
2	71	Machinery, other than electric.....	729,467	14	23	63
3	72	Electrical machinery, apparatus, and appliances.....	108,747	8	29	63
4	26	Textile fibers.....	100,274	81	18	1
5	08	Feedstuffs for animals.....	96,569		61	
6	68	Nonferrous metals.....	49,193	95	3	2
7	73	Transport equipment.....	47,742	15	50	35
8	22	Oilseeds.....	46,349	( <sup>1</sup> )	94	6
9	51	Chemical elements and compounds.....	40,360	6	32	62
10	21	Hides, skins, and furskins.....	37,740		85	14
11	67	Iron and steel.....	27,832	46	32	22
12	27	Crude fertilizers and crude minerals.....	26,711	( <sup>1</sup> )	99	1
13	25	Pulp and wastepaper.....	23,785	21	37	42
14	89	Miscellaneous manufactured articles, n.e.s. <sup>2</sup> .....	23,420	6	34	60
15	86	Professional, scientific and control instruction.....	23,067	9	38	53
		Total top 15 exports.....	2,837,506			
		Total all exports to CPE's.....	3,081,120			

<sup>1</sup> Figure is too small to appear in rounding, but is not 0.<sup>2</sup> Not elsewhere specified.

Source: U.S. Census Bureau, FT 455.

### GENERAL IMPORT PROTECTION—ANTIDUMPING, COUNTERVAILING, AND ESCAPE CLAUSE

The major instruments of general U.S. import policy are its anti-dumping, countervailing, and escape clause (safeguards) provisions. Table 22, compares anti-dumping and countervailing regulations. A later table, Table 23, compares general escape clause authority applying to all countries, with the market disruption authority which applies only to communist countries.

TABLE 22.—SUMMARY OF U.S. ANTIDUMPING AND COUNTERVAILING REGULATIONS

	Antidumping	Countervailing
Practice directed against....	Dumping—sales at less than fair value which result in injury to a U.S. industry.	Subsidization—bounties or grants paid on the manufacture and/or export of products (it is necessary to prove injury only with respect to duty-free items).
Remedy.....	Antidumping duty—a duty equal to the margin of dumping (difference between purchase price or exporters sales price and foreign market value or constructed value.)	Countervailing duty—equal to bounty or grant.
Legislative authority.....	Antidumping Act of 1921 as amended (c.f. sec. 321 of the 1974 Trade Act).	Tariff Act of 1930 as amended (c.f. sec. 331 of 1974 Trade Act).
Competent U.S. agency....	Treasury (for determination of sales at LTFV); ITC (for determination of injury).	Treasury (ITC when injury is involved).
Proceedings initiated by....	Petitions can be filed by any party on behalf of a U.S. industry as long as the petition contains adequate factual substantiation of alleged dumping.	Same as for antidumping, except that petitions from third countries can be considered.
Time limits on procedures.	Treasury 6-9 mo. for tentative decisions; 12 mo. for final decisions; ITC 3 mo. to determine injury once case is referred to it by Treasury. If Treasury determines that there is reasonable doubt that a U.S. industry has been injured, Treasury may request ITC to conduct 30-day preliminary inquiry. If ITC finds no reasonable indication that a U.S. industry is being injured, investigation will be terminated.	6 mo. for preliminary determination; 12 mo. from date of initiation for final determination.
Applicability.....	All countries (special provisions for state-controlled economies).	All countries.

### *Anti-dumping*

United States anti-dumping legislation dates back to the Anti-dumping Act of 1921. Although the United States is a signatory to the GATT Anti-dumping Code, the U.S. Congress did not pass enabling legislation to bring U.S. statutes into conformity with the Code. The stated U.S. policy has been that any anti-dumping decisions which were made would be within the spirit of the Code. Sufficient administrative flexibility exists for this to be the case. The fact remains, however, that U.S. statutes diverge from provisions of the GATT Anti-dumping Code in three key areas: methods of proceeding with an investigation, procedures for determining dumping from state-controlled economy countries, and in the definition of injury.

United States anti-dumping investigations proceed in two stages. First after receipt of a petition, an investigation to determine the existence of sales to less than fair value is undertaken by the U.S. Treasury. If such sales are found, the U.S. International Trade Commission investigates the injury charges. This contrasts with the GATT Anti-dumping Code which provides that both dumping and injury should be investigated simultaneously. The 1974 Trade Act attempted to ameliorate this disparity by providing that if there is reasonable doubt that a U.S. industry is being injured, the ITC may conduct a 30-day preliminary investigation of injury. Of course, this only helps in those cases where there is substantial doubt that injury exists and which are likely to be dismissed following the preliminary investigation.

Rather than providing for temporary anti-dumping duties, U.S. law provides for a withholding of appraisement of goods under investigation. The effect of this practice is that goods enter the United States with a great deal of uncertainty as to the amount of duty which will finally be assessed. And since anti-dumping duties are not assessed until after the injury investigation is completed, this can

result in a considerable time lag from the date when the withholding of appraisal notice was first published.

The U.S. method of determining dumping as practiced with respect to state-controlled economies is generally within the spirit of GATT—which for political reasons is deliberately not too specific in this area. There are special U.S. regulations used in certain cases involving state-controlled economy countries which provide the choice of comparing the export price to either: (a) the selling price or export price in a market economy, including the United States; or (b) the constructed value of the product in a market economy.<sup>33</sup> In practice, the Treasury inevitably chooses the former. But the potential to use an American “floor” price as provided under section (a), which was emphasized by the amendments to the Anti-dumping Act contained in the Trade Act of 1974, is a significant departure from the Anti-dumping Code.<sup>34</sup>

For the state-controlled economy, where home market prices cannot be used for comparison, the difficulties involved in constructing a value based on prices in market economies—even when the law is applied as fairly as possible—can make a decision appear arbitrary. If the product subject to an anti-dumping investigation is a fairly standard product, produced by a wide selection of market economies bearing some similarity in economic development to the country under investigation, the chances for a less arbitrary determination are improved. If however, the product is unique, and producers in market economies are few, grave difficulties can ensue as was the case with Polish electric golf cars which were found to be being dumped in the United States despite the fact that there was *no* home (Polish) market for the product.<sup>35</sup>

Finally, U.S. legislation simply requires proof of injury, not the more rigorous standard, “demonstrably the principal cause of material injury” called for by the GATT Anti-dumping Code. Nor does the legislation require that causes of injury to the industry other than dumping be considered and weighed to the extent required by the Code. The net effect of the U.S. statutory divergence from the multi-lateral standard is an anti-dumping law that can be and is more readily invoked, that can more often result in anti-dumping duties, and that involves a high degree of uncertainty for the importer. Despite the relative ease of taking anti-dumping actions, in actuality not many cases have been taken against state-controlled economy countries. For example, of some 62 findings of dumping in effect in mid-1976, only six were against non-market economies.<sup>36</sup> Since 1970, only five anti-dumping cases have been initiated against NMEs. One was discontinued (on Czechoslovakian felt fur hat bodies). Three resulted in a finding of no injury (Polish cast iron soil pipe fittings, Romanian welt work shoes and Romanian sheet glass). Only one has been found to involve injury to a domestic industry (Polish golf carts).

<sup>33</sup> Section 321 of the Trade Act of 1974, P.L. 93-618, p. 70.

<sup>34</sup> The Austrian provisions establishing an Austrian floor price were presumably one of the reasons to establish a new authority for market disruption separate from the anti-dumping regulations.

<sup>35</sup> For a discussion of the implications of U.S. anti-dumping legislation for East-West trade see, Peter Buck Feller, “The Antidumping Act and the Future of East-West Trade.” *Michigan Law Review*, Vol. 66, 1967-68, pp. 115-140. In this 1967 article Feller states, “It would be difficult to deny that the legal, as well as conceptual, framework for dealing with dumped communist imports is less than satisfactory, and needs to be re-cast in anticipation of an increased volume of imports from East Europe.” (p. 132.)

<sup>36</sup> *Federal Register*, Vol. 41, No. 124, Friday, June 25, 1976.

*Countervailing duties*

While many countries carry anti-subsidy or countervailing duty legislation on their books, only the United States actively utilizes these provisions. For example, in 1975 a total of 38 countervailing duty cases were initiated. Of these, 14 resulted in affirmative decisions (in 5 of these cases the countervailing duties were waived), 9 received negative determinations, and 15 were terminated during the investigation.

United States countervailing duty law dates back to 1897 although the immediate statutory authority is the Tariff Act of 1930 as amended. This law provides that commodities receiving bounties or grants on the production, manufacture or export from the government of the exporting country shall be subject to the assessment of a duty equal to the net amount of the subsidy. Contrary to GATT provisions, under U.S. law, it is not necessary to prove injury when the items imported are dutiable.<sup>37</sup>

No countervailing duty case has been brought against a state-controlled economy country. However, there has been much thought given by the U.S. Treasury, which would be the agency conducting the investigation, as to how such a case might be handled. The procedure would probably involve constructing a cost of production, but would take into account known differences in factor costs in the state-controlled economy country. Although no countervailing cases have been initiated against CPE countries, the existence of these statutes, without an injury test for the majority of products of concern, provides additional potential for impeding imports from a centrally-planned economy. Further, for purposes of assessing a countervailing duty, it would be very difficult to measure the amount of a "subsidy" in a non-market economy where internal prices are an imperfect guide to actual costs. The question of countervailing duties has the potential to become a more important problem in the future as the CPE's follow increasingly aggressive marketing and export promotion policies.

*Escape clause*

The third generally protective measure which the United States can apply is the escape clause—Title II of the 1974 Trade Act (P.L. 93-618). This legislation, like the EC common rules for imports, provides the legal basis for taking GATT safeguard actions under Article XIX. The U.S. escape clause provides protection on a product basis, regardless of country of origin.

Two separate and distinct types of action can be taken under this legislation. One type is adjustment assistance for workers, firms, and communities upon the determination that increased imports of a like or directly competitive product contributed importantly to the separation of workers and to a decline in sales. The second type of action provided under this authority enables the President to impose import relief measures. Import relief measures can be initiated upon

<sup>37</sup> The U.S. countervailing duty (CVD) legislation shows an interesting example of how the grandfather clause functions. Because U.S. CVD legislation predated the GATT, it was exempted under the grandfather clause of the GATT protocol of provisional application. However, the U.S. CVD legislation only applied to dutiable items. When in the course of drafting the new trade legislation, which ultimately resulted in the Trade Act of 1974, it was deemed desirable to include duty-free items under the CVD regulations, an injury test had to be provided in order to conform to the GATT. Today, as a result, injury need not be proved with respect to a dutiable item, but must be proved with respect to a duty free item.

a determination that "an article is being imported into the United States in such increased quantities as to be a substantial cause of serious injury." Further, substantial cause is defined as "a cause which is important and not less than any other cause." (See Section 201 of the 1974 Trade Act, P.L. 93-618.) This is clearly a more difficult standard of injury than either the GATT Anti-dumping Code, or U.S. anti-dumping legislation. It is an injury standard roughly comparable to the EC common rules for imports which require "substantial injury."

The import relief which may be provided can take the form of: (a) an increase or imposition of a duty; (b) a tariff rate quota; (c) a quantitative restriction; (d) an orderly marketing agreement; or (e) any combination of the above. Detailed and specific constraints are placed upon the various actions which can be taken. (See section 203 of the 1974 Trade Act, P.L. 93-618.) Suggested import relief remedies are supposed to take into account any and all petitions and grants of adjustment assistance. Escape clause actions, under GATT regulations can be subject to retaliation by affected countries. Usually, rather than retaliation, however, compensation in terms of reduced tariff rates on other items is usually negotiated with the principal suppliers of the imports.

Escape clause investigations are handled by the International Trade Commission (ITC), which has six months following receipt of a petition to report to the President with recommendations. The President then has sixty days to decide on the type of relief. If the President's recommendations are different from those of the ITC, he must report immediately to Congress, which then has 90 days to disapprove the Presidential recommendations. In the event this should happen, the original ITC recommendations will go into effect within 30 days.

Since the escape clause was revised by the 1974 Trade Act, some eighteen cases were initiated between April 1975 and September 1976, in contrast to a total of 28 cases conducted under the old Trade Expansion Act of 1962. However, most of the cases taken up under the 1974 Trade Act, either received a negative determination by the ITC, or no import relief measures were ordered by the President. The most important escape clause actions initiated in 1975 and 1976 with a potential to affect East-West trade were cases involving footwear imports. Despite the concern engendered on the part of non-market economies exporting shoes to the U.S. market, the final outcome of these cases did not directly affect the non-market economies.

#### SPECIAL IMPORT PROTECTION—MARKET DISRUPTION

Finally, the United States has special legislative provisions for taking action against market disruption resulting from imports from communist countries.<sup>38</sup> A realization of the problems inherent in the

<sup>38</sup> Section 406, Trade Act of 1974, P.L. 93-618.

GATT system with respect to centrally-planned economies, combined with a realization of the difficulties of administering anti-dumping and countervailing duties with respect to non-market economies led U.S. legislators to include a special section in the 1974 Trade Act dealing with market disruption resulting from imports from communist countries. The Senate Finance Committee Report on the Trade Reform Act of 1974 (Report no. 93-1298) sets out the need to take special protective action with respect to imports from communist countries for the following reasons:

(1) The capability of state-controlled economies to disrupt the domestic market of the market economy through state control of the distribution and pricing systems;

(2) The capability of the state-controlled economy to disrupt within a shorter period of time than could a freemarket economy; and

(3) The need to be able to prevent undue dependence upon communist bloc suppliers (i.e. to maintain domestic production and/or assure non-communist suppliers of a continuing market share), especially in the area of vital raw materials.

The market disruption provisions apply to all communist countries regardless of whether or not they have been granted MFN. The definition of market disruption contained in Section 406 of the 1974 Trade Act is "significant cause of material injury" or "threat thereof." It requires a lesser amount of injury (material injury) than the provisions of the general escape clause (serious injury) before action can be taken and is therefore intended to be an easier test to meet. In addition, the language of the market disruption clause implies a more direct link to causation than the provisions relating to adjustment assistance. However, adjustment assistance was not made available as a form of relief under Section 406.<sup>39</sup>

Despite their intended special use, the market disruption provisions are in many ways similar to escape clause actions. (See Table 23.) The same types of relief are available under the market disruption provisions as under the escape clause. The major difference in the implementation of the two types of authority is that the timetables contained in the market disruption section are telescoped: the ITC must report to the President within 3 months (versus 6); the President can take emergency action prior to a final determination; and any orderly marketing arrangements negotiated must go into effect within 60 days (versus 90) of the final determination. In the first two years following the enactment of the market disruption provisions, no petitions were filed.

<sup>39</sup> Adjustment assistance is available, of course, to any group of workers, firms, or communities which can demonstrate that increased imports (regardless of the source) have contributed importantly to the separation of workers and to a decline in sales.

TABLE 23.—SUMMARY OF U.S. ESCAPE CLAUSE AND MARKET DISRUPTION REGULATIONS

Escape clause	Market disruption
Practice directed against... Injurious imports—importation in such increased quantities as to be a substantial cause of serious injury or threat thereof to a domestic industry.	Market disruption—rapidly increasing imports (absolute or relative) so as to be a significant cause of material injury or threat thereof to a domestic industry.
Remedy..... 1. Increase or imposition of a duty - 2. Tariff rate quota..... 3. Quantitative restriction..... 4. Orderly marketing agreement..... 5. Any combination of above.....	Same as 1-5 listed under escape clause (applied only against products imported from Communist countries).
Legislative authority..... Historically dates back to U.S. trade agreement with Mexico of 1942; Trade Agreements Extension Act of 1952, et al.; title II of 1974 Trade Act.	
Competent U.S. agency.... ITC, and the President (Labor and Commerce for adjustment assistance applications).	ITC and the President (no adjustment assistance is available). Same as escape clause.
Proceedings initiated by... Trade association, firm, recognized union, workers, industry representative, the President, STR, House Ways and Means Committee, Senate Finance Committee, ITC.	
Time limits on procedures.. ITC 6 mo to report to President with recommendations. President 60 days to decide on type of relief. If Presidential recommendations are different from ITC, must report immediately to Congress which has 90 days to disapprove his report. If Presidential recommendations are disapproved, ITC recommendations must be proclaimed within 30 days. Orderly marketing agreements must go into effect within 90 days of final determination.	Same as for escape clause except: ITC 3 mo to report to President. President can take emergency measures pending final determination, and orderly marketing agreements must go into effect within 60 days of final determination.
Applicability..... All countries (nondiscriminatory).....	Communist countries only.

As can be seen, the United States has relied in practice on a denial of MFN and an active anti-dumping stance to protect itself against communist imports. These are by no means, however, the only tools available. Escape clause actions provide generalized protection against disruptive imports regardless of origin and the, as yet only potential, restrictions contained in countervailing duty regulations or the market disruption provisions of the 1974 Trade Act complete the selection of tools available to protect U.S. industries and workers.

### SUMMARY AND CONCLUSIONS

This paper has described the various import protection systems employed by selected Western countries. What generalizations can be made about these protective systems?

First, it can be said that none of the countries covered by this paper have left themselves defenseless.

Second, no country relies on a single instrument; all have several tools available to them.

Third, all the countries observed employ *ex ante* protection to varying degrees. The most restrictive of the types of *ex ante* protection are probably the discriminatory quantitative restrictions employed by the Western European countries, the denial of MFN by the United States, and the generally high Austrian tariff rate.

Fourth, all the Western nations covered by this paper maintain both general and special and protective systems against imports from state-controlled economies (although in the Austrian case this is not explicitly stated in the legislation). In no case are the general and special systems for imports mutually exclusive—in other words both general and special measures

can be employed against imports from state-controlled economy countries.

Fifth, an important feature of the various *ex post* protective systems is the degree of restrictive potential which has not yet been utilized. Given the number of instruments available both for general and special protection against communist imports, restrictive actions have been relatively restrained. Of course, this may be due partly to the protection provided prior to the fact of importation by the *ex ante* protective systems.

The central policy issues with respect to imports from communist countries are the proper mixes of *ex ante* versus *ex post* controls and fair trade practices versus injury criteria which will provide effective protection and, at the same time, permit trade to continue and expand. In the context of trying to maintain a liberal trade regime worldwide, the *ex ante* protective systems are probably the least defensible tools. Furthermore, as the trade behavior of the communist countries has probably been no more disruptive than the behavior of other traders, it is hard to demonstrate "special case" reasons to maintain *ex ante* restrictions against the state-controlled economy countries that are not maintained against other countries. In fact, recent years have witnessed a progressive reduction in the number of *ex ante* restrictions maintained against the communist countries, albeit at a slow rate.

*Ex post* restrictions involve more complicated issues. First, if *ex ante* systems were disbanded, there would have to be complete confidence that the *ex post* protective systems could be employed effectively, but with as little disruption to the overall conduct of East-West trade as possible. Import surveillance systems could play an important role in enhancing the effectiveness of *ex post* systems. However, when an automatic licensing system, which is primarily used for surveillance purposes becomes less than automatic, a new *ex ante* protective system has been established. Therefore, surveillance systems should be carefully limited in scope.

Secondly, the current patchwork of *ex post* systems—some multilateral, some bilateral, some unilateral, some applying a fair trade practices standard, some employing an injury criterion, some merging elements both of injury and fair trade practices—makes it very difficult to sort out how protection should be provided.

It seems to the author that the fair trade practices standards really have no relevance when dealing with imports from communist countries. The nations of today's world subscribe in varying degrees to either the competitive market economy concept or the centrally-planned and state-controlled economy concept, although no "pure" forms exist. While many countries have adopted elements of both, the communist countries have generally placed little reliance on prices set by market forces. It does not seem to be reasonable, therefore, either in theory or as actually practiced in anti-dumping or countervailing investigations, to attempt to apply market economy standards of behavior to non-market economies. The problem with abandoning market economy standards, however, is that relieving state-controlled economies from being subject to anti-dumping and countervailing actions without providing an effective alternative means of control would actually discriminate against Western traders who would still be subject to these tests. An additional problem with removing non-market economies from being subject to anti-dumping and counter-

vailing actions would be how to deal with those non-market economies which are evolving along market economy lines.

It could be argued that the GATT system should replace the multiplicity of tools and varying criteria which apply to both market economies and non-market economies with some form of an injury spectrum concept for protective actions. In actuality, this is how the current system usually works. For example, under GATT, anti-dumping and countervailing require a lesser standard of injury than do escape clause actions. Market disruption actions taken by various nations usually fall somewhere in between anti-dumping and escape clause actions on the injury spectrum. However, the new emphasis would be on injury and the causal link to injury, rather than on the practice or circumstances calling forth the restrictive action. Such a standard could be applied with equal ease to market or non-market economies, since it would rely on an internal, not an external standard. If it were deemed necessary to provide special protection against non-market economies because of their alleged potential to be disruptive, a lower standard of injury could be applied, or a faster procedure for taking action could be provided.

A move toward and emphasis on injury would require a formal recognition that nations do have a legitimate right to provide temporary, minimal protection, carefully constrained by multilateral considerations, for injured industries regardless of circumstances giving rise to that injury. This differs from the concept central to free trade theory that protective measures are not really legitimate because they limit the ability of nations to benefit from the comparative advantages available under free trade. The present GATT system has accepted this free trade logic (which is harmless enough in itself) and has established standards which no nation has managed to live up to, and from which there are increasing derogations. The result has been an agreement honored more in the breach than in the observance.

Despite the difficulties inherent in the GATT provisions for import protection, both generally and with respect to state-controlled economy countries, it is not likely that a major overhaul of the GATT will be accomplished in the foreseeable future. However, there are several adjustments in U.S. procedures which may be practical and desirable. One change which should be made is to increase the flexibility of U.S. anti-dumping regulations so that where information on costs and efficiencies in the nonmarket economy is available and deemed reliable, it could be used in the dumping determination.

It would also be helpful if U.S. anti-dumping regulations were to conform more closely to the international standard, both in terms of the procedures used and the definition of injury. As demonstrated by the U.K., the international standard provides ample protection when actively pursued. Countervailing duty regulations should also be brought up to the international standard by the insertion of an injury test for dutiable items. The net effect of these suggested reforms in the anti-dumping and countervailing areas would probably be to make market disruption actions under Section 406 of the Trade Act the preferred means of dealing with communist imports. Currently, anti-dumping is the most attractive route because the lack of flexibility in the law tends to encourage the assessment of dumping duties, and since it involves a lower standard of injury.

Market disruption actions theoretically have several advantages over anti-dumping, both for the U.S. industry and the communist exporter. The first of these is the speed with which actions can be taken, and the second is the flexibility in the type of relief provided which can be more readily tailored to the needs of the industry.

Dumping duties may be attractive on first glance, but sometimes so much time passes before the duties are actually assessed that they are of little help to an industry struggling with an immediate problem. In addition, market disruption actions do not get caught up in the web of whether a given export practice is "fair" or "unfair". The only relevant test is whether the imports in question have been a significant cause of material injury. Finally, market disruption actions more readily permit ongoing consultations with the exporting country and can better accommodate its interests as well.

It could be reasonably argued that the present U.S. system provides more protection against imports from communist countries than is necessary. Certainly, the present system is needlessly complex and legalistic. The changes in U.S. practices suggested here could help to improve the functioning of the import control system as applied to the nonmarket economies without impairing the nation's ability to take effective action when necessary.

In the U.S., and in other Western nations, a proper balance will have to be struck between the rightful need on the one hand, of industries and workers for a minimum of protection and, on the other hand, the more general benefits to the economy as a whole provided by the increased selection and lower prices resulting from open access to the home market. As imports from communist countries increase in volume and value, as indeed they must if East-West trade is to continue a long-term expansion, the issue of Western import control policy will become increasingly critical to the mutually beneficial development of two-way trade.

# EAST-WEST INDUSTRIAL COOPERATION

BY CARL H. McMILLAN\*

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## 1. INTRODUCTION

In the first half of the 1970's, industrial cooperation became one of the catchwords of East-West relations, achieving prominence in the new vocabulary of detente. In the East it has even been the object of what might be regarded as a "campaign": its desirability has been clearly signalled in repeated policy statements of the leadership; and it has been promoted by a series of institutional measures, including the creation of special incentives and the establishment of new agencies designed to cut through bureaucratic impediments.

The purpose of this paper is to examine the phenomenon of East-West industrial cooperation (EWIC) in the form of a general survey.

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EWIC encompasses a wide variety of organizational and functional forms. We shall be exploring a subject which is inherently diverse, across a range of seven Eastern European, and more than twice that many industrial Western, economies. In a paper of the present scope, EWIC can therefore only be examined in broad outline, and at a relatively high level of generalization. Frequent references will be made to the rapidly growing volume of literature on the subject for the benefit of readers who wish to follow up specific aspects.

To narrow the topic to more tractable dimensions, while still capturing what we would regard as its essence, we shall deliberately emphasize certain features more than others. We shall stress what is often called "inter-firm cooperation"—EWIC (inter-firm)—cooperative relationships which occur at the level of the enterprise, or firm.<sup>1</sup> Nevertheless, some mention will be made of inter-governmental arrangements—EWIC (inter-government)—which not only provide the framework for inter-firm cooperation but also for cooperative activity at the governmental level. Inter-governmental agreements provide official sanction and support for cooperation at the enterprise level and frequently establish mixed commissions and joint working groups to designate fruitful areas of activity and to match potential partners. Table 1 shows that the network of bilateral agreements for economic, industrial, scientific and technical co-operation was 87% complete in the second half of 1975. In the remainder of this paper, EWIC without qualifier will be used to denote EWIC (inter-firm).

TABLE 1.—INTERGOVERNMENTAL COOPERATION AGREEMENTS IN FORCE IN THE SECOND HALF OF 1975<sup>1</sup>

	Bulgaria	CSSR	GDR	Hungary	Poland	Romania	U.S.S.R.
Austria.....	X	X	X	X	X	X	X
Belgium/Luxembourg.....	X	X	X	X	X	X	X
Canada.....							
Denmark.....	X	X	X	X	X	X	X
Finland.....	X	X	X	X	X	X	X
France.....	X	X	X	X	X	X	X
FRG.....	X	X	X	X	X	X	X
Italy.....	X	X	X	X	X	X	X
Netherlands.....	X	X	X	X	X	X	X
Norway.....	X		X	X	X	X	X
Spain.....	X	X	X	X	X	X	X
Sweden.....	X	X	X	X	X	X	X
Switzerland.....	X	X	X	X	X	X	X
United Kingdom.....	X	X	X	X	X	X	X
U.S.A.....							

<sup>1</sup> Economic, industrial, and technical (applied science and technology) cooperation agreements.

Source: Based on U.N. ECE, "Practical Measures to Remove Obstacles to and to Promote and Diversify Trade", Oct. 19, 1976 (Trade/R. 334).

EWIC is also generally defined to include joint equity ventures between Eastern enterprises and Western firms. We shall incorporate them in the broad framework of the paper, but shall devote a minimum of attention to them. Our focus will be on non-equity forms of inter-firm cooperation.

In keeping with the theme of this volume, the experience of the Eastern European countries (especially the six Eastern European members of the CMEA) will be the main object of our attention.

<sup>1</sup> In the East-West context, inter-firm cooperation is usually defined as involving at least one partner at the enterprise level, normally on the Western side.

Occasional reference will be made to the Soviet Union, for purposes of comparison and because of the important inter-relationship which exists between the policies and experience of the Soviet Union and those of the Eastern European countries. For more detail on EWIC in Soviet policy and practice, however, the reader is referred to several papers in the preceding, 1976 JEC compendium on the Soviet economy.<sup>2</sup>

The next section of this paper will deal with concepts and definitions. The fundamental nature and characteristics of EWIC will be examined and then the problems of translating the concept into an operational definition will be discussed. Varying Eastern and Western definitions will be presented and explained. A third section will summarize quantitative evidence on the overall dimensions of EWIC. In Section 4, the principal functional attributes of EWIC will be explored in turn. The analysis will seek to demonstrate its wide-ranging significance and to reveal the variety of factors motivating the establishment of cooperative relationships. In Section 5, individual Eastern country approaches and experience will be explored. A final section will review the major conclusions to be drawn from experience to date, briefly discuss trends and outline current policy issues posed by the continued evolution of EWIC.

## 2. CONCEPTS AND DEFINITIONS

International industrial cooperation enjoys no generally accepted definition. Deficiencies of definition are in part a reflection of the newness of the subject. Because of its range and complexity, however, EWIC presents fundamental problems of conceptualization. This section will first seek to delineate the concept of industrial cooperation and then explain difficulties in translating the concept into an operational definition.

The impatient practitioner may question the concern for definition, but in fact the matter is of considerable practical importance. The absence of definition not only reflects our limited understanding but contributes to it, by restricting analytical progress. Without definition, when we generalize from individual cases, we risk serious misunderstandings and tend to talk at cross purposes. Considerable semantic confusion has in fact arisen in the growing literature on the subject, with terms such as "industrial cooperation", "production sharing", "coproduction" and "joint ventures" used at times interchangeably and at others to indicate differentiable forms. (Increasingly, however, industrial cooperation has become the generic term for a type of relationship which may occur at various levels, and the remaining terms have been reserved to denote variants of it, usually at the enterprise level.) Without definition, efforts to quantify the meaning of EWIC and to measure its dimensions are severely hampered, and results are rendered non-comparable if not incomprehensible. Moreover, without adequate definition, policies seeking to stimulate or regulate EWIC cannot be effectively formulated and implemented.

<sup>2</sup> Smith (1976) and Theriot (1976).

*The concept.*<sup>3</sup>—The term cooperation itself carries no precise meaning and is even misleading in the context at hand. It is often not fully appreciated that what is at issue is not a function or activity, but an institutional relationship. EWIC should therefore not be juxtaposed with such international functional categories as “trade” and “investment”, but with fundamental international institutional mechanisms, such as the “market” and the “firm”. Activities such as trade and investment may be undertaken through all three basic institutional mechanisms.

In line with this approach, EWIC is defined by this writer as constituting arrangements whereby individual producers, based in East and West, agree to pool some assets and jointly to coordinate their use in the mutual pursuit of complementary objectives. The assets pooled under the arrangement may be tangible and intangible: plant, capital equipment, technology, and know-how. Some may be transferred between the partners; others may remain in place. The pooling of assets may or may not involve the partners in formal equity ties. Coordinated use of assets may therefore be on a fee basis or may be according to an income-sharing scheme. Coordination may be accomplished informally, through *ad hoc* consultation or may be further institutionalized through the creation of a formal joint body for the purpose, possibly even through the founding of a new, mixed equity company. The activities coordinated may extend beyond production to related activities, such as resource development, capital expansion, research and development, financing, marketing and distribution.

The complex range of forms and activities encompassed by the cooperative concept is readily apparent from this definition. Nevertheless EWIC is a conceptually identifiable and differentiable phenomenon. Cooperative associations among producers are familiar in the domestic sphere (agricultural cooperatives for production and marketing are an example). In the international sphere we find firms adopting similar patterns, and organizing their interaction in ways which are essentially different from their relations through the market or within the framework of a centralized, multinational firm. As a mechanism for the international coordination of relations among producers, cooperation is intermediate to the market and the firm. It is in a sense a hybrid, combining attributes of both of the other two mechanisms, to which it can be regarded as a basic institutional alternative.

Like union in a multinational firm, cooperative association permits direct, extra-market coordination of designated activities. In the firm or the cooperative, intra- or inter-firm, planning, control and accounting are conducted within the framework of internalized institutional arrangements which substitute for the market-price mechanism. Under cooperation, however, this substitution is less complete, and the parties continue to conduct an important share of their relations through the market. Moreover, cooperating firms retain their separate legal and commercial identities and essential operational autonomy to a degree which distinguishes them from the units of a single multinational firm.

<sup>3</sup> This section draws on a recent paper by the author. See McMillan (July, 1976) for further argumentation.

Nevertheless when they choose to pool certain assets for coordinated purposes under the provisions of a cooperation agreement, the parties consciously impose restrictions on their autonomous rights to use, derive income from, and dispose of, these assets. For this reason cooperation involves complex property rights arrangements which create an interdependence among firms qualitatively different from, if not necessarily quantitatively greater than, the interdependence generated through market relations. Cooperative and market relationships differ in other ways as well. The buyer-seller, user-supplier dichotomy characteristic of market relations tends to blur when there is a pooling of capabilities in a joint endeavor. In contrast to the isolated, often non-recurring, transactions of the marketplace, cooperation is inherently of a continuing nature, often linking firms for an indefinite period. Cooperation agreements encompass a broader range of activities than do most market transactions and often extend coordination directly to operations (production, research and development) which are only indirectly coordinated by the market.

These considerations can be summarized in the following characteristics of EWIC:

1. EWIC associates Western firms and Eastern state enterprises in arrangements through which they agree to pool certain of their capabilities in a common endeavor.

2. Such arrangements typically cover a set of complementary activities and extend directly to line production operations, as well as to related activities such as capital expansion, research and development, financing, marketing and distribution.

3. In contrast to the isolated transactions of the market place, EWIC requires continuing commitments and obligations from the partners. Agreements are therefore generally long-term, and not infrequently made for an indefinite time period.

4. Joint activities are coordinated and enforced by the terms of an inter-firm agreement, periodically modified and extended through direct negotiation and consultation. Coordination through direct inter-firm agreement contrasts with the indirect, impersonal coordination of the price mechanism, in the case of market relations, and with coordination by fiat of a central managerial authority, in the case of intra-firm relations. Typically no special organizational machinery for coordination is established in EWIC; the exception are the joint management boards created in the still relatively infrequent case of joint ventures, or mixed companies.

5. EWIC does not generally establish formal equity links between the partners (again with the exception of joint ventures). Complex inter-firm distributions of property rights result, involving the separation and attenuation of rights to use, derive income from and dispose of the pooled assets. EWIC thus increases the institutional flexibility through which proprietary rights may be exploited internationally.

6. EWIC agreements demonstrate a strong evolutionary tendency. Not only does EWIC frequently evolve from market relationships between firms, but it tends to progress from arrangements of a near-market character through forms of association which increasingly assume aspects of the organization of relations among units of a decentralized multinational firm.

*Operationalizing the concept.*—Translating these conceptual distinctions into operational criteria poses a number of practical problems. Operationalizing the concept is rendered especially difficult by the intermediate and hybrid nature of EWIC. The various forms of cooperation are stretched along a continuum which extends from market relations on the one hand to intra-firm relationships on the other. There is therefore the problem of delimiting cooperation from both. Moreover there are a large number of variants and sub-categories within the cooperative spectrum, and they combine in varying ways elements of both the market and the firm. It is not surprising that in these circumstances progress towards a fully operational, generally acceptable, definition of cooperation should be slow.

Several typologies have been constructed which have helped very much to identify and clarify the forms of cooperation.<sup>4</sup> Table 2 lists, and briefly defines the forms usually included. It cannot be sufficiently stressed, however, that in practice almost every cooperation agreement is unique in its arrangements. Few fall neatly within the classifications of such typologies, most spanning several. The fundamental weakness of these classification schemes is that they mix functional and institutional characteristics.

Operational definitions of cooperation vary according to where they draw the lines between cooperation and intra-firm relations and between cooperation and market relations. Because direct foreign investment has been severely limited in East-West relations, the line between the former pair is less contentious. However even in East-West relations the problem is not entirely absent. How, and where, for example, does one draw the line between the activities of multinational socialist enterprises and those of joint East-West equity ventures in the West, since the latter are usually included in definitions of EWIC?

It is in the area of distinguishing EWIC from large-scale transactions, involving transfers of capital and technology, where most operational problems of definition have arisen. Cooperation is frequently defined as encompassing agreements which "go beyond traditional, straightforward, arms-length transactions". But what transactions may be regarded as "straightforward" and "arms-length" and what constitutes "going beyond" them? In particular, an increasing number of East-West transactions involve the transfer of productive equipment and technology in the form of entire production "systems". Should contracts of this nature, which package a variety of elements, and may take a number of years to consummate, be defined as "cooperative"? The conceptual approach outlined above would suggest that they be regarded as complex forms of market transactions; on the other hand they are classified under the heading of cooperation in the terms of a number of East-West inter-governmental agreements.

East-West contracts for the transfer of plant, equipment and technology have increasingly entailed at least partial repayment in the resulting, or a related, product. East-West licensing agreements often specify the terms for future market sharing (perhaps in addition to product-payback features). Both product-payback and market-sharing entail a certain degree of inter-firm coordination of the future

<sup>4</sup> UN ECE (1973) and St. Charles (1974).

use of the capital and/or technology transferred under the agreement. Should they constitute sufficient conditions for classification as EWIC, even if turnkey plant sales and licensing agreements *per se* do not? If so, how are resulting or related product to be defined, and what degree of market sharing is required?

These are some of the problems of establishing a rigorous operational definition of EWIC which have plagued experts in both East and West, and have prevented them from reaching a definitional consensus. What needs to be stressed is that, at this juncture, there exists no single, internationally accepted definition of EWIC, nor even a standard Western or standard Eastern definition. Instead several, broader and narrower, definitions are used on both sides (national government agencies tend in East and West to prefer broader definitions). We shall have more to say about individual Eastern country definitions in Section 5 below. The definition of EWIC is inevitably linked to the principal objectives perceived to be attainable through it.

The dimensions of some of the principal definitions used in East and West are indicated in Table 2. Unless otherwise specified, all data reported in this paper will be based on definition B of Table 2.

### 3. OVERALL DIMENSIONS OF EWIC

Quantitative studies on EWIC are still in the pioneer stage.<sup>4</sup> A necessary first phase in any attempt to quantify the concept of EWIC has been to determine its overall dimensions and the broad outlines of its structure. In this section we shall examine the picture which has begun to emerge from several initial research efforts.

#### *Problems and Limitations of Measurement*

Statistical analysis has been shackled with a number of conceptual and practical difficulties which have slowed progress and limited results. Most fundamentally, quantitative research has been hampered by the absence of a standard definition of cooperation; and results have often not been readily comparable. The usefulness of much data has been further limited by the failure to specify precisely the nature of whatever definition was used in deriving them.

Clarifying the definition by no means solves the problems of measurement. Accurate classification requires fairly detailed knowledge of a given arrangement and such information is generally not readily or systematically available. No Western governments require registration of EWIC agreements, and Eastern registries, when they exist, are not made public. Individual researchers are therefore forced to compile their own statistics from scattered data.

The information problem makes it often difficult to establish whether an agreement falls within a given definition of EWIC. It makes it practically impossible to classify EWIC agreements further, by major types. Any such statistical breakdown is rendered the more difficult by the fact that agreements are complex and do not fit neatly into simple classification schemes. Statistical classifications by type should therefore be interpreted with particular caution.<sup>5</sup>

<sup>5</sup> Since agreements in practice incorporate several forms, some analyses classify an agreement by the "highest" form incorporated, but this obviously makes the results difficult to interpret. For example, production contracting on the basis of a license subsumes licensing with payment in product, but classification under the former results in an underestimate of the latter. One solution is to analyze component elements of agreements rather than to classify entire agreements. See Table 4 below.

TABLE 2.—Types of contractual arrangements included in different definitions of East-West industrial (inter-firm) cooperation<sup>1</sup>

1. Sale of equipment for complete production systems, or "turnkey" plant sales (usually including technical assistance).
2. Licensing of patents, copyrights and production know-how.
3. Franchising of trademarks and marketing know-how.
4. Licensing or franchising with provision for market sharing and quality control.
5. Cooperative sourcing: long-term agreement for purchases and sales between partners, especially in the form of exchanges of industrial raw materials and intermediate products.
6. Sub-contracting: contractual agreement for provision of production services, for a short-term and on the basis of existing capabilities, but often to design specifications furnished by the contractor. Some or all components also frequently supplied by contractor.
7. Sale of plant, equipment and/or technology (1-3 above) with provision for complete or partial payment in resulting or related products.
8. Production contracting: contractual agreement for production on a continuing basis, to partner specifications, of intermediate or final goods to be incorporated into the partner's product or to be marketed by him. In contrast to sub-contracting, production-contracting usually is on the basis of a partially transferred production capability, in the form of capital equipment and/or technology (on basis of a license or technical assistance contract).
9. Co-production: mutual agreement to narrow specialization and exchange components so that each partner may produce and market the same end product in his respective market area. Usually on the basis of some shared technology.
10. Product specialization: mutual agreement to narrow the range of end products produced by each partner and then to exchange them so that each commands a full line in his respective market area. In contrast to cooperative sourcing, product specialization involves adjustment in existing product lines.
11. Co-marketing: agreement to divide market areas for some product(s) and/or to assume responsibilities for marketing and servicing each other's product(s) in respective areas. Joint marketing in third markets may be included. Does not in practice stand alone, unless in the form of a joint marketing company (i.e., combined with 14 below). Otherwise combined with various forms, especially 4, 8, 9, 10.
12. Project cooperation: joint tendering for development projects in third countries.
13. Joint research and development: joint planning, and the coordinated implementation, of R&D programs, with provision for joint commercial rights to all product or process technology developed under the agreement.
14. Any of the above in the framework of a specially formed mixed company or joint venture between the partner firms (on the basis of joint equity participation, profit and risk sharing, joint management).

MAJOR APPLIED DEFINITIONS OF EWIC, ON THE BASIS OF THE ABOVE

- A. *Broad definitions* encompass all, or nearly all of the 14 types. The Soviet definition seems to include all, as does the definition used in the study prepared for the US Department of Commerce by Marer et al. (1975). The broader Eastern European official definitions include all but type 1.
- B. *Intermediate definitions* encompass types 6 through 14. This is the definition established by the United Nations Economic Commission for Europe and used by the author.
- C. *Narrow definitions* tend to concentrate on types 8 through 13.<sup>2</sup> Individual researchers in both East and West have sometimes preferred to adopt a narrow definition in their work on EWIC.

<sup>1</sup> The terminology used here is not standard, and the types are variously designated in the literature. For example, the term "production-sharing" is sometimes used to designate all or some of types 8 through 10. For more extensive definition, discussion and illustration of the many types of arrangement included in this table, but using somewhat different terminology, the interested reader is referred to the U.N. ECE (1973) and to St. Charles (1974).

<sup>2</sup> In Eastern Europe, a distinction is sometimes made between "economic cooperation" which could involve any one of the types of arrangement covered in Table 2 and "industrial cooperation" which is based on three core elements: specialization in production, transfer of technology and cooperation in marketing. According to this approach, industrial cooperation would have to include at least one of types 8 or 9 plus 11. Economic cooperation tends to be used more in a macro-economic context and may include government programs; industrial cooperation has here a micro-economic connotation.

A more fundamental problem faced is what basic measure to use. How can one express in concise form the magnitude of a complex set of activities which extend into an uncertain future? Once one does decide on one or more key variables, there are inescapable problems of valuation: some data may be available only in Eastern domestic prices, others only in transfer prices; and both forms of administered prices can be regarded as unsatisfactory standards. Furthermore at what exchange rates are component activities, priced in different currencies, to be homogenized?

The volume of merchandise trade conducted under cooperation agreements has been used as one measure, especially in Eastern Europe. Since 1972, the Polish statistical agency has recorded trade data by this criterion, and has occasionally made public statistics based on these data (see Section 5 below). The recording procedures have not been explained, however, and it would seem to be extremely difficult in practice to separate trade attributable to cooperation from other trade flows between a set of partners. Even if such trade can be statistically isolated, it is an inadequate measure of EWIC. There is no *a priori* reason to expect a positive correlation between the degree of cooperation and the volume of trade between partners. To the extent that cooperation is a substitute for direct investment, it may similarly displace trade. A transfer of technology abroad for cooperative use may substitute for exports. Cooperation based on market-sharing and on joint R&D may also occur without any necessary increase in exchanges of goods between the partners.

The value of resources pooled for cooperative purposes is a conceptually more attractive measure. In practice, the information required to apply such a measure is generally not available. If firms do record the share of productive assets devoted to cooperative activities, these data are not made public. Even if one could determine the separate recorded value of all cooperative activities occurring within an arrangement in a defined period, one would fail to capture their mutually reinforcing character: coordination of activities through an EWIC agreement is intended to ensure that the combined effect exceeds the sum of the parts. When cooperation is further institutionalized in a joint venture, the value of assets may be more easily obtained, but such arrangements remain relatively rare in Eastern Europe. Even in these instances, the capitalized contributions of the partner firms can fail to capture the full value of the arrangement.

Given these practical limitations, statistical analyses of EWIC have settled for the simple expedient of using numbers of agreements as the basic measure. This is obviously a poor reflection of their economic significance. It is a more meaningful measure of the significance of EWIC as an international institutional form which East-West partners may choose over alternative relationships.

Even measurement in numbers of agreements is not without difficulties, apart from the severe information problem already cited. What, for example, constitutes one agreement? Often various aspects of a single arrangement may be formulated in different inter-firm contracts, written or verbal. The participation of more than one partner on each side may also lead to double counting. Moreover, the drive which most Eastern European governments instituted in the 1970's to promote EWIC has created pressures for the over-classifica-

tion of agreements. Governmental preferences have not only led to the adoption of broad official definitions of EWIC, but have created positive incentives for enterprises and firms to classify their arrangements as "cooperative"—often with more imagination than justification.

*The Estimated "Universe" of EWIC Agreements*

While official Eastern statements make periodic reference to the total numbers of "cooperation" agreements signed with Western firms, they seldom provide sufficient accompanying information about what is covered in these statistics to permit useful interpretation. Nor have Western governments published systematic data. In the absence of meaningful and comparable national statistics, the U.N. Economic Commission for Europe has attempted to fill the gap through its own research efforts.<sup>6</sup> In early 1973, it published a major study on EWIC, with a short statistical section, and has sought to up-date the record in several subsequent reports.<sup>7</sup>

Based both on material supplied by member governments and on information gathered independently, the ECE presented in its 1973 Analytical Report the first quantitative outlines of East-West industrial cooperation. Its estimate of a universe of some 600 EWIC agreements in force at the beginning of 1973 has been widely quoted. It is important therefore to understand what this estimate covers. It includes agreements falling within the definition of EWIC established by the ECE in the *Analytical Report*, and which accords generally with definition B given in Table 2 above.<sup>8</sup> The 1973 ECE estimate covers not only inter-firm agreements, however, but also framework agreements between Eastern administrative organs and Western firms (such as the well-known protocols signed by the USSR State Committee for Science and Technology with several hundred Western firms). It also includes mixed East-West companies (joint equity ventures) established in both East and West. The estimate (presumably) includes all such agreements between partners in the USSR and Eastern Europe (including Yugoslavia) on the one hand, and in Western Europe and North America on the other.<sup>9</sup>

In a later (1975) statistical report on the state of industrial cooperation, the ECE makes reference to "certain recent estimates" according to which "the number of East-West industrial cooperation contracts concluded to date is approximately 1,000."<sup>10</sup> The ECE report does not explain nor state the source of this estimate, but a contemporary U.S. Department of Commerce publication, states that "Based on data developed earlier by the United Nations Economic Commission for Europe (the *Analytical Report*) one unofficial source has estimated that there are probably now more than 1,000 such East-West arrangements in existence, involving virtually the entire spectrum of Western industry."<sup>11</sup> The Indiana University

<sup>6</sup> In the absence of an official international registry, the ECE has maintained an unofficial registry as a data base for its analytical studies.

<sup>7</sup> UN ECE (1973), (1975) and (1976).

<sup>8</sup> The rigor of the UN definition is weakened by the added statement that it includes "contracts . . . which have been identified as industrial co-operation contracts by Governments in bilateral or multilateral agreements" (UN ECE, 1973, p. 2).

<sup>9</sup> Unfortunately, the *Analytical Report* leaves aspects of its methodology unclear, and the estimate is not broken down by country or category.

<sup>10</sup> UN ECE (1975, p. 3). This reference is repeated in the ECE's 1976 report (p. 2).

<sup>11</sup> U.S. Department of Commerce, *The United States Role in East-West Trade, Problems and Prospects*, August, 1975, pp. 12-13.

study on U.S. involvement in East-West industrial cooperation also cites the 1,000 estimate.<sup>12</sup>

Table 3 presents the results of efforts by the author to clarify the universe of EWIC agreements as of the end of 1976. The global estimate is broken down into three broad categories: framework agreements, non-equity cooperation agreements and joint equity ventures. Breakdowns by Eastern country are given under each category. With the few exceptions indicated, the estimates are based on EWIC agreements individually documented from a wide variety of published and unpublished, official and non-official sources.<sup>13</sup>

The estimates are of agreements reported as concluded; the information available does not permit estimation of how many are actually in force. It is also impossible to estimate how many agreements have gone unreported or have otherwise been missed, but considerable effort has been made to ensure that the count is as complete and accurate as possible.

Coverage in Table 2 is deliberately based on the parameters of the 1973 ECE study in order to provide comparability with UN estimates. The ECE definition of cooperation has been applied,<sup>14</sup> and country coverage is similar except for the inclusion of Japan (which, however, only serves to raise the total by an estimated 4%.) The Table 3 grand total, as of the end of 1976, considerably exceeds the 2,000 mark. If the Table 3 totals for individual Eastern countries are below some official Eastern claims, it should be remembered that the latter are based on a broader definition than that which underlies the Table 3 estimates. It should be borne in mind that the figures are cumulative totals of agreements concluded, and that there is no way of accurately estimating what proportion remain active. There is in fact reason to believe that significant numbers of agreements concluded have never been fully implemented or have fallen dormant.

Table 3 shows that the Eastern countries differ rather markedly in terms of their participation in broad categories of EWIC. The USSR is seen to dominate category I, because of the large numbers of protocols signed with Western firms by the State Committee for Science and Technology.<sup>15</sup> Their inclusion significantly raises estimates of Soviet participation in EWIC. The Eastern European countries have had far less recourse to framework agreements concluded with Western firms at the ministerial level. They have apparently regarded inter-governmental cooperation agreements as generally providing a sufficient official umbrella for the conclusion of substantive arrangements with Western corporate partners.

Three Eastern European countries, Yugoslavia, Hungary and Poland, stand far ahead of the others in numbers of more specific agreements with Western firms for non-equity forms of cooperation (Category II). They are followed by an intermediate group composed of Romania, the USSR and the CSSR, with Bulgaria and the GDR at the lower end of the scale. This ranking suggests a positive correlation between degree of participation in EWIC, East-West trade orientation and reform of the traditional foreign trade mechanism. The factors determining the extent of individual country participation will be discussed in Section 5 below.

<sup>12</sup> Marer et al. (1975, ch. 4, p. 21).

<sup>13</sup> There is reason to believe that the estimates have been biased upwards by the inclusion of data on Yugoslav and US agreements from other sources (see footnote 3, Table 3), because these data are based on a broader definition, although they have been roughly adjusted to accord with the definition underlying Table 3.

Yugoslavia, with the oldest (1976) joint venture legislation and its market socialist economy, has attracted the most equity investment from the West. In Romania and Hungary, joint ventures have progressed slowly since the Fall of 1972, when both countries passed enabling decrees. By the end of 1976, no joint ventures had been

TABLE 3.—ESTIMATED UNIVERSE OF EWIC AGREEMENTS CONCLUDED BY EASTERN COUNTRIES (AS OF END OF 1976)<sup>1</sup>

Category of agreements <sup>2</sup>	Estimated number of agreements <sup>3</sup>	As percent of subtotals
<b>I. General, framework agreements with Western firms:</b>		
Bulgaria.....	15	4.4
CSSR.....	4	1.2
GDR.....	4	1.2
Hungary.....	5	1.5
Poland.....	14	4.1
Romania.....	22	6.5
U.S.S.R.....	275	81.1
Yugoslavia.....	(*)	
<b>Total.....</b>	<b>339</b>	<b>100.0</b>
<b>II. Substantive, nonequity cooperation agreements with Western firms:</b>		
Bulgaria.....	56	4.2
CSSR.....	53	4.0
GDR.....	26	2.0
Hungary.....	228	17.1
Poland.....	216	16.2
Romania.....	77	5.8
U.S.S.R.....	196	14.7
Yugoslavia.....	478	35.9
<b>Total.....</b>	<b>1,330</b>	<b>100.0</b>
<b>III. Joint equity ventures (by location):</b>		
<b>(a) In those Eastern countries permitting foreign equity investment:</b>		
Hungary.....	3	2.0
Poland.....	0	0
Romania.....	6	3.9
Yugoslavia.....	144	94.1
<b>Total.....</b>	<b>153</b>	<b>100.0</b>
<b>(b) In the industrialized West:</b>		
Bulgaria.....	18	3.8
CSSR.....	12	2.5
GDR.....	12	2.5
Hungary.....	49	10.2
Poland.....	39	8.1
Romania.....	27	5.6
U.S.S.R.....	58	12.1
Yugoslavia.....	265	55.2
<b>Total.....</b>	<b>480</b>	<b>100.0</b>
<b>Grand total.....</b>	<b>2,302</b>	

<sup>1</sup> All agreements are between Eastern economic organizations and Western firms; no intergovernmental EWIC agreements are included. No information is available on Albania's participation in EWIC and it is presumed to be nil. Partners to the agreements included in this table are located in the following Western countries: Austria, Belgium, Canada, Denmark, Finland, France, FRG, Italy, Japan, Netherlands, Norway, Spain, Switzerland, United Kingdom, and United States.

<sup>2</sup> Definition of categories:

I. General agreements: Agreements or protocols with Western firms, establishing intent to cooperate and broad conditions for cooperation, but not containing specific terms of cooperation. Thus these are "umbrella" agreements under which substantive, followup agreements are concluded between the partners.

II. Specific agreements: Agreements establishing relationships covered by types 7 through 13 of table 2.

III. Agreements of type 14 of table 2.

<sup>3</sup> With a few exceptions, the figures given are the total numbers of cases individually documented by the East-West project, Institute of Soviet and East European Studies, Carleton University, Ottawa. Documentation of these cases is based on lists of agreements provided by official and nonofficial organizations (in East and West) and on published reports, adjusted to comply with definition B of table 2. Exceptions are: (a) Estimates of framework agreements concluded by the U.S.S.R., which are based in part on figures published by the U.S.S.R. State Committee for Science and Technology, (b) those portions of the estimates representing agreements with U.S. partners, which are based on the findings of an Indiana University research project, adjusted to the ECE definition (Marer et al., 1975, ch. 4), (c) the figures for Yugoslavia under categories II and III, A are based on an official Yugoslav submission to the United Nations and are not fully comparable with the other country figures in this table, since they do not conform exactly to the ECE definition and represent agreements with foreign partners generally, as of mid-1976. (U.N., ECE, Trade/AC.3/R.8/add.2, Sept. 24, 1976.) The estimate for Yugoslavia under category III, B is based on several secondary, Western and Eastern sources. (See McMillan, 1977, p. 6.)

<sup>4</sup> Not available.

established in Poland under its brand-new regulations, but joint venture negotiations with several Western firms were reportedly well underway in early 1977. Soviet activity in mixed companies in the West is noteworthy; the relative participation of the Eastern European countries under category IIIB is in closer accord with their participation in other categories of EWIC in Table 3.<sup>16</sup>

### *The Structure of EWIC Agreements*

Insufficient information is available on many of the agreements covered in Table 3 to permit a systematic, detailed analysis of the universe of EWIC agreements. Two surveys undertaken on an international, and two on a national, scale have, however, helped to reveal at least the broad outlines of the EWIC phenomenon, on the basis of sample data.<sup>17</sup> In the following paragraphs we shall summarize some of the principal statistical findings of these surveys, concentrating especially on the ECE and Carleton studies, since they are the broadest in coverage and most comparable in method. This necessarily brief summary will be restricted to the overall characteristics of EWIC; structural features associated with individual countries will be discussed in Section 5 below.

Both the 1975 ECE study (of a sample of 207 agreements) and the Carleton survey (of a sample of 218 agreements) analyze the structure of EWIC as of early 1975.<sup>18</sup> Both analyses apply the same definition of EWIC and focus on the range of agreements designated as category II in Table 3.<sup>19</sup> Both cover the same set of Eastern countries (those listed in Table 3 less Yugoslavia, which the ECE treats separately and Carleton excludes). They also cover the same Western countries, with one important exception: the ECE sample includes the US, while the Carleton study does not.<sup>20</sup> Neither study can claim that its sample is necessarily representative, although both of the samples investigated represent substantial shares (over half) of the estimated universe of agreements, as defined, in early 1975.<sup>21</sup> On the other hand, since the samples were compiled independently, the validity of any similar findings is reinforced.

<sup>14</sup> With the exception of the "loophole" in the UN definition (described in footnote 8, above) which could not be systematically adjusted for.

<sup>15</sup> These are described and analyzed by Theriot (1976).

<sup>16</sup> Category IIIB agreements have been explored by the author in a recent, unpublished paper: McMillan (1977).

<sup>17</sup> These studies were conducted by the following groups, and their findings reported as indicated. Research conducted by the Secretariat of the ECE; reported in UN ECE (1973, 1975 and 1976). Survey carried out by the East-West Project, Institute of Soviet and East European Studies, Carleton University, Ottawa; findings initially reported in McMillan (June, 1976), and since slightly revised, as reflected in the present paper. Survey on US participation conducted by International Development Research Center, Indiana University, Bloomington; reported in Marer et. al. (1975). Study on FRG participation conducted by HWWA-Institut, Hamburg; reported in Bolz and Plötz (1974).

<sup>18</sup> The ECE studies are based on material compiled by the secretariat from enterprise interviews and from published sources. The Carleton study is based on questionnaires completed by the Western partner firms covered in the sample, and on interviews with participating Western firms and Eastern enterprises. Although the ECE updated its 1975 analysis on the basis of a larger sample of 298 agreements in 1976, it has seemed more appropriate to compare the 1975 ECE study with the Carleton findings, because they cover the same time period. The 1976 ECE updating did not significantly affect any of the findings summarized here.

<sup>19</sup> The ECE analysis also incorporates category IIIA agreements for the countries covered, while the Carleton study treats them separately; but these agreements (joint ventures in Hungary and Romania) are too few in number in the ECE sample to affect the broad results. In this regard, it should be noted that the 1975 and 1976 ECE studies are based on samples more narrowly defined than in the 1973 *Analytical Report*. In particular, they exclude "certain specific forms of cooperation such as trade in licenses and capital goods, commercial joint ventures, technical and scientific co-operation agreements, etc." which were included in the 1973 report (ECE, 1975, p. 2 and ECE, 1976, p. 1).

<sup>20</sup> US agreements comprised only 7.7% of the ECE sample.

<sup>21</sup> See McMillan (June, 1976, Table B).

Both studies report similar findings with regard to country participation in EWIC. On the Eastern side, Hungary and Poland clearly occupy first place in numbers of contracts concluded with Western firms.<sup>22</sup> They are followed at some distance by Romania, the Soviet Union, and Czechoslovakia; Bulgaria and the GDR trail the list. On the Western side, the Federal Republic of Germany, Austria and France lead in both samples, but the Carleton survey finds a more salient role played by Austrian firms than does the ECE. Italy and Sweden fall into the next rank of countries in both studies, with the United Kingdom also included at this level in the Carleton sample. Japan, the United States and the smaller Western European countries account for smaller shares of EWIC agreements concluded, in both samples.<sup>23</sup>

There is again a consensus between the studies with regard to the distribution of EWIC agreements by industrial branch. Both find a leading role played by technology-intensive industries, with between 36-42% of the agreements on the samples studied falling into the machine-building industries (non-electric). This sector is followed at some distance by chemicals, transport equipment and the electrical and electronics industries (each ranging between 9-15% of the agreements in the two samples.) The Carleton study also classifies agreements according to broad user-categories, and finds over 70% of the agreements surveyed to involve producers goods (investment-oriented projects and products and intermediate industrial goods), with only 25 percent occurring in consumer-related industries. The ECE also found light industries and other more consumer-oriented industries to play a relatively small role (about 17%) in its sample.<sup>24</sup>

The two studies differ in approach to the question of the functional structure of EWIC agreements. The ECE classifies each agreement by type (licensing and delivery of plant or equipment, with at least partial payment in product; coproduction and specialization; subcontracting; joint ventures in the East; and joint tendering). The Carleton study deliberately avoids such classification and instead analyzes the frequency distribution of various component elements of the EWIC agreements studied. Both approaches reveal the essence of EWIC to lie in coordinated specialization in the production of components of an end product, on the basis of transferred technology. (Direct specialization in, and exchange of, final goods is seen rarely to constitute the basis for EWIC.) Nevertheless, both surveys find payment for capital goods and technology in resultant or related products to constitute a significant share (40-50%) of the arrangements surveyed. Nearly one quarter of the agreements in the Carleton sample included joint projects in third countries, but only 7% of the ECE sample were so classified.<sup>25</sup>

<sup>22</sup> Hungary and Poland together account for 58% of the Carleton sample and 60% of the ECE sample.

<sup>23</sup> The Indiana survey, adjusted to the ECE definition, reports 100-110 agreements for US firms. This represents a higher percentage (20%) of our estimate of the 1975 universe than the US share in the ECE sample (8%).

<sup>24</sup> The Indiana and Hamburg studies showed broadly similar industrial and end-user characteristics for US and FRG agreements studied, but Indiana noted somewhat lower participation by US firms in the machine tool and transport equipment branches.

<sup>25</sup> At present these arrangements make up a large part of what is termed "tripartite cooperation". An UNCTAD report describes and analyzes the latter. It identifies 132 "effective tripartite industrial cooperation projects" (involving firms located in East, West and South) as of mid-1975. See UNCTAD (1975).

Table 4 shows how the component elements of 218 EWIC agreements were distributed in the Carleton sample. (Each agreement is composed of a number of elements.) The data (which are based on questionnaires completed by Western firms engaged in EWIC arrangements and located in fourteen different Western European countries and in Japan) clearly illustrate the important transfer of technology function performed by EWIC arrangements. The elements most directly associated with transfer of technology between the partners are: custom design of plant or equipment (4), training of personnel (5), technical assistance (6), licensing (7) and cooperation in R&D (16). Nearly two-thirds of the agreements surveyed included provision of technical assistance, with nearly half involving licensing of technology and personnel training. All three elements were present in 30% of the agreements studied. Separate calculations show that 75% of the agreements in the sample contained at least one of the five, major transfer of technology elements (elements 4-7 and 16 in Table 4).

The data in Table 4 suggest that joint management as yet plays a limited role in EWIC agreements. The provision of managerial services (1) is an element in less than 9% of the agreements surveyed. The exercise of quality control by the partner (13) appears in only 25% of the cases. The obstacles to joint management will be discussed in Section 6 below.

Elements 1 through 8 can be regarded as establishing the base for industrial cooperation between the partners. Cooperation itself is manifested in elements 9 through 16. Most Eastern European specialists regard element 11 as the form of production specialization for which their countries strive in EWIC arrangements. It is interesting, but not surprising, that the survey reveals that only 19% of the agreements studied have evolved to this stage. A much larger proportion (47%) remain at the stage described in element 9.

The ECE finds a definite "affinity" between certain forms of cooperation and certain branches of industry. In the ECE study, licensing is most common in the machine-building and transport equipment industries; supply of plant and equipment in the chemical and metallurgical industries. The ECE is careful not to ascribe causal relationships to the associations found. Nevertheless, it would seem logical that technical and economic conditions characteristic of a particular industrial branch should play a role (among other factors) in determining the form of cooperation.<sup>26</sup> Thus the relative importance of supply of plant and equipment in Soviet EWIC contracts, shown by the ECE data, may in part be explained by the priorities which the data also indicate to be attached to the chemical and metallurgical sectors as the principal objects of Soviet EWIC arrangements.

The Carleton survey reveals certain characteristics of Eastern and Western partners to EWIC agreements. On the Eastern side, specialized foreign trade enterprises are by far the most frequent partners, and in about half of the cases are the sole Eastern parties to the agreement. On the Western side, a single partner, rather than a consortium, was found to be typical. On the other hand, in exactly half of the agreements studied, the Western partner could be identified as a multinational corporation (with direct foreign investments in one

<sup>26</sup> Cf. McMillan (July, 1976, p. 11 ff.).

TABLE 4.—COMPONENT ELEMENTS OF EWIC AGREEMENTS<sup>1</sup>  
 [Percent of country's agreements surveyed containing designated element]

	Country							Total all countries
	Bulgaria	CSSR	GDR <sup>2</sup>	Hungary	Poland	Romania	U.S.S.R.	
Number of agreements surveyed .....	17	18	6	75	51	30	21	218
Element:								
1. Managerial services .....	11.8	5.6	0	10.7	7.8	10.0	4.8	8.7
2. Capital equipment sale .....	29.4	22.2	0	29.3	23.5	50.0	19.0	28.4
3. Complete plant sale .....	41.2	11.1	33.3	5.3	19.6	33.3	42.9	20.2
4. Custom design of plant/equipment .....	23.5	27.8	16.7	13.3	23.5	40.0	28.6	22.9
5. Training of East personnel .....	58.8	61.1	16.7	45.3	47.1	56.7	23.8	46.8
6. Technical assistance (know-how) .....	58.8	66.7	33.3	60.0	62.7	60.0	57.1	60.1
7. License .....	47.1	50.0	16.7	44.0	54.9	46.7	47.6	47.2
9. Provision by East partner of parts components to West specs. and incorp. in West product .....	35.3	66.7	16.7	61.3	49.0	63.3	28.6	52.6
10. Provision by East partner of products to West specs., to be marketed by by West partner .....	35.3	66.7	0	44.0	54.9	60.0	23.8	46.8
11. Production specialization and exchange of parts/components so each partner produces same end product .....	41.2	27.8	16.7	56.0	33.3	33.3	23.8	39.9
12. Production specialization and exchange so each partner disposes of full line of final goods .....	23.5	33.3	0	20.0	15.7	23.3	9.5	19.3
13. Quality control .....	11.8	11.1	16.7	2.7	5.9	6.7	0	5.5
14. Coordination of marketing/servicing .....	23.5	22.2	0	38.7	19.6	26.7	0	25.2
15. Joint project in 3d country .....	35.3	27.8	33.3	34.7	35.3	30.0	9.5	31.2
16. Joint R. & D. ....	35.3	22.2	66.7	17.3	31.4	26.7	9.5	24.3
	23.5	5.6	33.3	26.7	17.6	20.0	47.6	23.9

<sup>1</sup> The data presented are based on questionnaires completed in 1975 by Western firms partner to the agreements. Details of the survey and methodology are described in McMillan (June 1976). This is a revised version of appendix table V there, based on a slightly extended sample. Agreements included conform to the ECE definition and fall into category II of table 3 above.

<sup>2</sup> In interpreting the percentages for the GDR, the small absolute number of agreements included in the sample should be borne in mind.

or more countries); and in nearly one-fifth of the cases, the Western partner was found to be a large MNC (with affiliates in more than 10 foreign countries and 1973 sales in excess of \$2 billion).<sup>27</sup> Western firms are often involved in several Eastern countries; the Carleton survey found that 27% of the firms in its sample had EWIC agreements in more than one country.<sup>28</sup> State participation in EWIC at the enterprise level was found not to be limited to the Eastern side in 20% of the cases, the Western partner was identified as the state enterprise (state majority ownership).

#### 4. FUNCTIONAL ATTRIBUTES

The systemic crisis which the Eastern economies faced in the 1960's has been well documented in earlier volumes in this series. Persistently unsatisfactory economic performance directed increased policy attention towards the potential gains from expanded and improved participation in the "international division of labor". EWIC forms an important part of a series of parallel external policy measures undertaken in these circumstances in the late 1960s and early 1970s. Its special attraction has stemmed from the possibilities which it has offered as an instrument through which several basic external policy objectives could be pursued concurrently: a larger and more stable volume of trade with the West, a more desirable trade structure, through an increased share of manufactured exports to the West, and more effective acquisition and absorption of Western plant and technology. Moreover, through its impact on the volume and structure of exports as well as imports, EWIC offered the prospect of minimizing the adverse balance of payments effect of increased acquisition of Western capital goods and technology.

EWIC should therefore be viewed not only as a policy, but as an institutional mechanism for the pursuit of policy objectives. In this respect, it may be regarded as one of a number of adjustments in their traditional foreign trade systems undertaken by the Eastern European countries to meet the demands of changing external policy priorities.<sup>29</sup> International industrial cooperation is an instrument which has not been limited to the attainment of economic objectives solely in relations with the West. Industrial cooperation at the enterprise level has also been emphasized as a means of developing and improving relations among socialist countries.<sup>30</sup>

The ways in which EWIC can serve a variety of policy purposes is better understood if we examine in turn its principal functional attributes, as a mechanism for capital investment, technology transfer, production specialization, joint marketing and self-financing. These diverse functions reveal the broad economic scope of EWIC, the variety of forces motivating its rapid growth over the past decade, and the mutuality of interests which is essential to effective and

<sup>27</sup> Comparison of the findings of the Carleton and Indiana studies suggests that a larger proportion of US participants in EWIC agreements fall into the category of industrial "giants" than is the case of participating Western European firms. The Hamburg study found medium-sized companies to predominate in its sample of participating West German firms.

<sup>28</sup> The Indiana study reports nearly half of the US firms, whose involvement could be identified by country, to be active in more than one Eastern country (but on the basis of a substantially broader definition of EWIC activity).

<sup>29</sup> See Matejka (1975) for an inter-country comparison of these adjustments.

<sup>30</sup> Cf. *Comprehensive Program for the Further Extension and Improvement of Cooperation and the Development of Socialist Economic Integration by the CMEA Member Countries*, Moscow: CMEA Secretariat, 1971 (Section 8).

viable cooperation. The discussion will concentrate on ways in which EWIC can in principle perform these functions; problems which have arisen in practice will be examined in Section 6.

### *Capital Investment*

Foreign equity investment in three Eastern European economies (Bulgaria, the CSSR and the GDR) is not legally possible. While now permitted in Hungary, Poland, Romania and Yugoslavia, it faces a number of legal and systemic constraints which have slowed its development. Although minority equity investment in joint ventures is permitted and encouraged, the establishment of foreign branches or subsidiaries is generally ruled out.<sup>31</sup>

In these circumstances, non-equity forms of inter-firm cooperation have assumed greater relative importance. EWIC is not simply a means by which a Western firm extends long-term credits to an Eastern partner. It is the framework for a form of real capital investment, since through production and market sharing provisions, quality control arrangements and other agreed procedures, the Western firm is able to play a continuing, if indirect, role in the use of productive assets within the Eastern economies.

While unable to establish more than a representative office in Eastern Europe, a Western European, North American or Japanese firm can transfer productive assets to an Eastern European location and, in partnership with an Eastern enterprise, take advantage of many of the circumstances which in another context would stimulate direct foreign investment. In particular, with Western European production costs raised to North American levels, Eastern Europe's raw materials, comparatively cheap and stable labor force and industrial base have made it an attractive production location on the periphery of the Common Market. Many of the agreements in the universe estimates recorded in Table 2 are based on such considerations. Significant proportions of the agreements in both the ECE and Carleton samples (20-30%) involve transfer of equipment or plant to the Eastern partner and a much larger proportion involve the transfer of intangible capital assets.

In sum, EWIC agreements can be viewed as a means by which, in principle, a Western firm can exercise some of the property rights which normally accompany equity investment. In the absence of formal title to assets in the East, the Western partner may nevertheless exercise some control over the use, allocation of income from, and disposal of, transferred assets during the life of the agreement. In this sense, EWIC can perform some of the functions of more direct forms of capital investment and can substitute for the latter in the face of East-West legal and systemic constraints. In practice, as will be argued in Section 6, the cooperative formula has proved least successful in ensuring an effective voice to the Western partner in the operational management of assets.

### *Technology Transfer*

To the Eastern European countries, with their high internal rates of capital formation, EWIC is of less interest as a mechanism for

<sup>31</sup> We are talking here of West to East flows; East to West direct foreign investment is analyzed in McMillan (1977).

capital investment than as a vehicle for the importation of Western technology, especially applied, industrial technology. This transfer of technology function is the major consideration underlying the Eastern emphasis on cooperative relationships, and is repeatedly stressed in official statements and legislative enactments on the subject.

Eastern perception of the potential significance of cooperation as a transfer mechanism extends beyond the objective of simple acquisition. Technology may in many cases be purchased or leased through straightforward transactions in the marketplace. Turnkey projects even afford the possibility of acquiring through the market whole production systems: from feasibility studies, through design, construction and equipment of an entire plant, to the training of personnel and the provision of technical assistance during an initial, run-in period. A cooperation agreement may also include these elements, but it extends the possible "package" beyond the acquisition of a complete engineering system to the creation of a reinforcing system of technical and commercial linkages, extending into the future and creating the possibility of continuing access to partner technology.

Cooperation can (like direct foreign investment) entail the transfer of technology which is not amenable to arms-length sale or lease, or of technology to which the possessor is not willing to relinquish all, or most, proprietary rights. It therefore affords the possibility of obtaining new, non-standardized technology, not generally available through market. These possibilities result from the continuing interest and involvement of the Western partner in the operational and commercial application of the technology transferred.

Of perhaps even greater importance to the Eastern countries, however, is the possibility that the full technological capability will be assimilated through continuing cooperation with the Western firm from which the technology is obtained. Degrees of assimilation involve the development of the capability to replicate the technology, to adapt it to different products or uses and to generate further improvements in it.

There are therefore strong motives for seeking the active, continuing cooperation of the Western firm, through a package arrangement which provides not only the basic production and marketing rights, but specialized equipment and components, continuing technical and managerial assistance, training of personnel, up-dating of technology, collaboration in production, marketing assistance and the possibility of cooperation in further R&D. To guarantee, however, that these features are fully implemented the continuing interest of the Western partner in the undertakings must be enlisted. This can only be ensured if the Western firm is able to profit through the arrangement from an enhanced ability to exploit its technological advantage, albeit indirectly, within the Eastern market area. Moreover, the Western partner must be given sufficient operational scope under the agreement to play the desired, active role in the transfer process.

If the Eastern goal of assimilation is to be realized, and continuing technological dependence to be avoided, the Eastern partner must also ensure that it is not relegated to a passive role in the process. It too must be given both the scope and the incentive under the arrangement

to take an active part in the decisions involved in the transfer and in their implementation. True cooperation implies shared responsibilities and the technological learning-by-doing that results. In the East-West context, the basic technical level of the Eastern partner facilitates its assuming such a role.

To what extent is this potential for technology transfer and assimilation realized in practice? How often is this complex set of conditions met in EWIC agreements? Some measure of the importance of the transfer function in actual agreements is conveyed by the data, presented in section 3, on the research-intensive nature of the industries in which EWIC agreements are concentrated and the relative frequency of technology transfer elements in the agreements surveyed.

On the other hand, a substantial share of agreements classified as cooperation scarcely exceed simple licensing contracts or turnkey plant sales. The large majority of agreements classified as EWIC—even those falling within the intermediate and narrow definitions—would not appear to meet the requirements for effective technology transfer described above. Many arrangements, by limiting the Eastern role to prescribed manufacturing operations, may even serve to widen the technical gap between the partners. The Eastern enterprise, while acquiring a new production technique, is locked into this technology by the provisions of a long-term agreement which grant it little scope to engage in product marketing or development. As for agreements which may be more truly characterized as cooperative, the diverse ways in which technology is transferred and the complex interdependence of the activities which are directly or indirectly involved in the process, make the transfer function extremely difficult to assess. More extensive analysis of the transfer function remains an important next stage in research.

Interviews with firms and enterprises involved suggest that the progression from acquisition to assimilation of technology is not something that can be planned or guaranteed in advance, but which evolves in the course of a relationship. The appropriate selection of partners, and the establishment of a flexible relationship, are probably more important than the institution at the outset of an elaborate formula for technology transfer, replete with extensive formal guarantees.

### *Production Specialization*

Production specialization is really the heart of cooperation. Transfers of productive equipment and technology merely set the stage for specialization; cooperation in marketing, financing, research and development are auxiliary to it. This is graphically depicted by the location of production arrangements at the center of the spectrum of forms of cooperation presented in Table 2.

From this aspect, therefore, the essence of cooperation is the shift of production activities to new, foreign locations. In the East-West context, at this stage of the evolution of relations, this shift is typically from West to East. An Austrian firm, for example, may find it advantageous to phase out certain production operations and to transfer them (together with the necessary plant and technology) to a cooperating enterprise in Eastern Europe. It will then concentrate on a small-

ler range of, usually more technically sophisticated, activities, relying on the Eastern partner as the source of the transferred output.<sup>32</sup>

Transfer of production to a partner, and the economies of specialization thereby achieved, entail contractual, inter-firm coordination of production activities. The arrangements through which this is accomplished differ in particulars but constitute variations of a single theme. They can be viewed as forming a progression of arrangements, through which the relationship between a pair of partners may evolve. Licensing or supply of plant and equipment, with payment in resultant product, and sub-contracting involve a minimum of production specialization. They can, and often do, evolve into production contracting arrangements, involving an increased and more permanent the transfer of production operations from the contractor to the contractee.

The progression from one form to another depends importantly upon the development of partner capability and the growth of mutual knowledge and confidence. It is motivated by the gains from increased specialization and the attractions of more commercially interesting two-way exchanges of goods and services, as partners become aware of the potential advantages of developing and exploiting inherent complementarities. As has been stressed earlier, differentiation of these types of arrangement can be extremely difficult in practice, since the difference between a licensing agreement involving partial payment in the resulting product and a production-contracting agreement on the basis of licensed technology may lie more in *ex ante* intentions than in the *ex post* terms of the arrangements.

These arrangements all involve one-way production commitments. In instances where partner technical capabilities are more balanced, or as more balanced capabilities develop, production contracting may evolve further into co-production and product specialization agreements, involving two-way commitments and resulting flows of goods and services. All else being equal, this evolution increases the inter-dependence of the partners.

It should not be surprising that these ultimate forms, standing as they do at the end of the progression of potential production specialization arrangements and involving the most comprehensive meshing of partner plans and operations should remain relatively rare. It may be recalled that in the Carleton sample, some 40% of the agreements involved payment in resultant product, 47% included production contracting of parts and components (40% covered production contracting of end products), but only 19% involved co-production and 6%, product specialization.

Most of the production specialization undertaken on a cooperative basis involves the vertical integration of coopting firms. That is, it represents a decision to narrow the range of components produced and to rely on contractual agreements with partner firms for the remainder. This leads to expanded East-West exchanges of intermediate products and to increased intra-industry specialization and trade among Eastern enterprises and Western firms. The close link between inter-firm cooperation and intra-industry specialization is a widespread phenomenon in the domestic and international relations

<sup>32</sup> A detailed example of this strategy is presented in Malzacher (1976).

of industrial economies. Its extension to the East-West context can be viewed as an aspect of the increased incorporation of East-West commerce into the mainstream of international economic relations.

### *Joint Marketing*

Inter-firm cooperation can also perform important marketing functions for the partners, each facing special problems in the other's market area. Some of the most basic of these functions follow directly from the forms of production specialization described above. The marketability of Eastern goods, manufactures in particular, produced in cooperation with a Western firm, to Western specifications and quality standards, on the basis of Western technology and equipment, often with a Western, or joint, brandname or trade-mark, is of necessity enhanced, whether sold domestically or abroad, in East or West. Moreover, the Western partner, as end-user or as direct distributor under the terms of the arrangement, constitutes a built-in "market" for the Eastern product or products in the West. If the terms of the agreement are met, this market is stable and long-term.

The direct links which a cooperative arrangement establishes between the partners perform a valuable market-feedback function, and help to ensure that the Eastern product not only meets, but will be continually adapted to meet, Western requirements. Products reimported after further processing in the East under EWIC arrangements may also be subject to more favorable Western tariff and quota treatment than similar products directly exported from the East. The Eastern partner gains not only exclusive marketing rights to the cooperative product within its domestic territory, but often as well exclusive or non-exclusive rights in other areas, especially within the Eastern European region. An EWIC agreement frequently includes marketing assistance, and even provision for after-servicing, of partner products not directly covered by the production specialization aspects of the agreement. In performing these various functions, EWIC agreements substitute for the institutional framework for effective marketing in the other system which each side has traditionally lacked.

The joint marketing function has also been performed through the establishment of mixed equity commercial ventures in the West. As shown in Table 3, more than 200 joint trading companies have been established with local partners in the industrialized Western economies by the USSR and the six Eastern European CMEA countries. Yugoslavia is estimated to have formed an even larger number of such partnerships. Not infrequently, extensive retailing and servicing facilities are set up by these joint companies. In a more institutionalized form than through non-equity links to Western firms, mixed companies seek to serve many of the same purposes: improving the marketability of Eastern products, especially manufactures, by raising their technical standards, adapting them more closely to Western requirements and promoting them more intensively within the Western market area.

EWIC offers to the Western firm the prospect of improved access to the planned Eastern economies. In the typical arrangement, the Western firm sells the initial plant, equipment and technology upon which the subsequent cooperation is based. It continues to supply

parts and components to be incorporated into the cooperative product (although there is usually an effort to substitute increasing proportions of Eastern domestic production for such imports over the long term.) Moreover, but for the self-financing function of cooperation (to be discussed next), such sales might well not have been made at all, or not in such volume, on a straight market basis, owing to balance of payments constraints. Finally, like the Eastern enterprise in the West, the Western firm faces the problem of getting its products sufficiently well known to establish a firm position in the Eastern market. Transfer of some product lines to an Eastern production location enhances the prospects of achieving these marketing aims, through the direct "presence" within the Eastern market area which results. This increased presence, together with the contacts which such arrangements bring within the Eastern planning bureaucracies and the good will which they generate in the East, serve to improve the general market position of the Western partner, beyond the specific terms of the agreement itself.

In practice, the marketing aims sought through cooperation have often failed to be realized, and this has led to disappointment for partners on both sides. Eastern partners complain of the failure of Western firms to live up to their purchasing commitments; Western partners lament continuing deficiencies of quality, uncertainties of supply and the limitations imposed by exchange controls. We shall return to these questions in the final section of this paper.

### *Self-Financing*

Many Western observers stress the self-financing or self-liquidating function of EWIC, and regard cooperation simply as a more sophisticated form of barter, dictated by the absence of convertible Eastern currencies. Others, taking a similar line, emphasize EWIC as an effective instrument of Eastern debt management. The importance of the financial function of cooperation is undeniable; and in the face of their mounting hard-currency indebtedness, the Eastern European countries have themselves laid increasing stress on it. To regard EWIC solely in these terms, however, is to neglect its other major functional attributes as outlined above.

It is useful to distinguish between the implicit and explicit aspects of the financing function. Production specialization agreements automatically result in a degree of self-financing. That is, they necessarily generate a certain amount of hard currency earnings which offset hard currency expenditures under the agreement. These built-in marketing features therefore overlap the financing function of EWIC agreements.

However, an explicit self-financing function can, and increasingly has been, superimposed upon the degree of self-financing which naturally results from other attributes of cooperation. The imposed necessity to achieve, or approximate, a bilateral balance of payments within an inter-firm arrangement can hamper other functions, and conflict with other objectives, of EWIC. If carried too far, it can constrain the development of existing arrangements and discourage the growth of new agreements.

Preference for balanced commitments under an agreement, and the tendency to strive for an ever greater degree of balance than would naturally result from a given arrangement, stem in part from the organization of the Eastern economies and the behavioral pattern which the system imposes upon planners and managers. Foreign trade enterprises, as we have seen the immediate parties to EWIC agreements, are charged with achieving export as well as import targets. At a higher level, exports and imports within a single EWIC agreement will often fall within the same "materials balance" for planning purposes.

Such tendencies are of course reinforced by external pressures. As Eastern hard currency indebtedness has increased, so has the pressure to enter into arrangements whereby additional Western plant and technology may be acquired without immediate commitment of limited hard currency reserves. The advantages of EWIC as a form of financing, however, extend beyond its use as an additional source of long-term credit. The compensatory provisions of a cooperation agreement shift the burden of financing to the Western firm.<sup>33</sup> The implication is that the Western partner can arrange hard currency financing for the arrangement more easily than could the Eastern partner (its national foreign trade bank) directly. The commitment of the Western partner to a cooperative undertaking (especially to its joint marketing features) facilitates Western commercial bank financing in the face of rising Eastern indebtedness.<sup>34</sup> Moreover, borrowing through the intermediation of a Western partner firm avoids direct increments to the country's formal debt structure, and thus forestalls imposition of credit limitations.

Comparison of ECE data for 1975 and 1976 provides some evidence of the impact of balance of payments pressures on the structure of EWIC. Between April 15, 1975 and June 1, 1976, the share of agreements in the ECE sample involving supply of plant, equipment and technology with at least partial payment in products or components, increased from 48% to 54%, and the increase was especially noteworthy for Poland, a country facing particularly acute pressures on available hard currency funds.<sup>35</sup>

Product-payback financing is not achieved, however, without cost to the Eastern country (apart from the possible conflicts with other EWIC objectives already cited.) The cost to the Western partner of financial intermediation is often passed on in the form of discounts on Eastern products taken in payment, or price supplements on goods supplied under the agreement. Moreover the Eastern partner ties itself to a single Western buyer and to an advance pricing formula, both of which can involve substantial risk in the longer run.

In this discussion of the principal functional attributes of EWIC, we have necessarily tended to concentrate on the most typical pattern of cooperative activity. It is worth noting, however, that EWIC

<sup>33</sup> Direct Western partner involvement in the financing is viewed in the East as providing an additional guarantee of partner commitment to the terms of the agreement.

<sup>34</sup> Western partner purchase commitments are seen as strengthening the commercial viability of the arrangement. Moreover, the bank presumably receives more details of the project than it would otherwise obtain.

<sup>35</sup> While the ECE reports imply that the increase in the sample between the two dates resulted from the inclusion of newly concluded agreements, this is not explicitly stated, and our interpretation must therefore be treated with some caution.

does not always involve the transfer of capital equipment and technology, or the shift of production operations, from West to East. The reverse, East to West, pattern also occurs. Since this activity has attracted less attention, a few examples would seem useful.

Both Soviet and East European machine tools are equipped abroad with Western programmed control systems and marketed locally under cooperative arrangements with firms in Western Europe. Other types of Eastern industrial equipment are assembled and installed in Western Europe under the terms of cooperation agreements with local firms. Cooperative production in the West under Eastern license is also observed. A Swedish company has begun production, under Soviet license, of installations for specialized equipment for electro-hydraulic casting, imported from the USSR. Bulgarian and Hungarian enterprises have established joint companies with Western European partners to produce, under license, electrical and medical equipment respectively. A special foreign trade enterprise has been set up in Hungary (*Novex*, of Budapest) to promote joint commercialization of Hungarian industrial technology in the West in cooperation with Western firms.

The list could easily be extended, but these examples suggest the variety of arrangements involved. Although they are the most industrially advanced of the Eastern European countries, the GDR and the CSSR have lagged behind in this activity. Nevertheless, the CSSR has used the cooperative formula to shift some production operations to neighboring Austrian locations, in order to take advantage of relatively abundant and cheap Austrian labor in the border region.

It should be apparent from the variety of functions which cooperation agreements are intended to perform, that there are strong *a priori* reasons for regarding large, multinational corporations as the ideal Western partners to such arrangements. Their functionally diverse, and geographically dispersed, capabilities would seem best to suit the "package" nature of cooperation agreements, which as noted can incorporate activities ranging from turnkey sales to joint, international marketing and tendering.<sup>36</sup>

While the role of Western multinationals in EWIC was seen in Section 3 to be quantitatively significant, it can easily be exaggerated. Their participation in billion-dollar deals, for the most part in the USSR, and the inherent sensationalism of the notion of prominent capitalist "giants" in partnership with "communist" state enterprises, has naturally attracted wide public attention. Not only do the multinationals not enjoy a monopoly on EWIC, but in cooperation between smaller Eastern and Western European countries their role has been observed to be below the overall East-West average, as measured by numbers of agreements.<sup>37</sup>

Consortia would seem to provide a framework within which smaller Western firms might compete effectively with large multinational corporations for major EWIC projects. Survey data indicate West-

<sup>36</sup> The Canadian subsidiary of a Western European multinational, for example, successfully negotiated a joint venture in Eastern Europe because it was able to contribute not only a turnkey plant embodying its own technology to the undertaking, but additional technology desired by the Eastern partner, obtained on a sub-license from its parent. Moreover, it was able to provide the services of affiliates in Western Europe not only in the marketing of a share of the joint venture product but of other products which the Eastern authority approving the arrangement wished to use in partial payment. Such instances are encountered repeatedly, not only in joint ventures, but in non-equity arrangements.

<sup>37</sup> See McMillan (June 1976, Appendix Table VII).

ern consortial involvement to be more suited to certain types of cooperation: joint projects in third countries and the supply of large-scale production systems on a product-payback basis. Production specialization agreements are almost exclusively bilateral (discounting the intermediary role played by the Eastern foreign trade enterprise in such arrangements).

## 5. COUNTY APPROACHES

The purpose of this section is to bring out the main aspects of individual Eastern European country approaches to EWIC.<sup>33</sup> The general conditions described in the preceding sections apply across the board, and will not be repeated here. Rather than stress the broad similarities in approach shared by these countries, we shall concentrate on the more unique features which differentiate them. Treatment is necessarily limited to the principal characteristics of each country's policies and experiences.<sup>39</sup>

### Bulgaria

By the standards set by some Eastern countries, Bulgaria's practical experience with EWIC has not been extensive. As shown in Table 3, Bulgaria accounts for an estimated 4% of substantive, non-equity agreements. On the other hand, in recent years Bulgaria has actively sought to promote cooperation, under the provisions of specially devised legislation and through newly created governmental bodies.

Bulgaria has for some time been active at the inter-governmental level in promoting cooperative ties with the West (see Table 1). By Decree No. 1196 of the State Council, issued on June 12, 1974, Bulgaria has sought to translate this inter-governmental framework into more concrete, inter-firm relationships, by encouraging "economic, industrial and technical cooperation" between Bulgarian economic organizations and "foreign juridical and physical persons." The decree stresses the extension and modernization of production capacities as the main objectives of cooperation and makes the foreign partner's remuneration contingent upon the introduction, through the arrangement, of new plant or technology (Article 13).

In the regulations accompanying the decree, cooperation is defined as involving three key elements: lasting or enduring relationships, joint activities and mutual advantage. The principle of reciprocal flows of products and services under a cooperation agreement is particularly stressed. This broad definition is to be applied in industry, construction, agriculture, transport, tourism, trade, finance and auxiliary activities; and it is to encompass the following general forms (Article 3):

1. Joint activities for setting up of production capacities or for the reconstruction or modernization of existing capacities, on the basis of the most advanced technologies and scientific and technological achievements.

<sup>33</sup> The material incorporated is based in part on interviews conducted by the author, in 1973-75, in all of the countries except Bulgaria.

<sup>39</sup> Further details on the approaches of various Eastern European countries may be found in Starr (1974), which stresses the legal conditions, Marer et al. (1975) and in a special issue of *Revue de l'Est* (Vol. 5, No. 2 1974). Studies specific to countries will be cited in passing below.

2. Joint scientific, research, design, construction, planning and similar activities.

3. Joint production of finished and semi-finished goods, according to documentation provided by the parties or by another organization, exchange of articles, spare parts, sections and details, documentation, licenses, know-how, technical assistance, etc.

4. Joint participation in the supply or construction of complete plants on the territory of the contracting parties and in other states.

5. Organizing of joint enterprises outside the territory of the People's Republic of Bulgaria, for industrial or other economic activities.

Joint equity ventures are not permitted in Bulgaria (and in fact foreign ownership in domestic enterprises is constitutionally prohibited), but the 1974 legislation establishes the conditions for extensive non-equity forms of inter-firm collaboration in production. To facilitate the pooling of productive assets, foreign partners are allowed to import equipment and materials without restriction. These assets are to be placed at the disposal of the Bulgarian enterprise during the life time of the agreement. Upon termination, they may be sold in Bulgaria or reexported. The regulations envisage a degree of joint management, through the stationing of representatives of the Western partner in the Bulgarian enterprise in order to provide technical assistance and to exercise quality control. The regulations permit substantial flexibility in the distribution of income from cooperation, including fixed fee arrangements, royalties and the sharing of income in proportion to partner contributions to the endeavor.

Thus the formula involves a fairly ambitious sharing of rights and responsibilities. While not allowing joint equity ventures in Bulgaria, it poses functionally similar non-equity arrangements. It also envisages the setting up of joint companies outside Bulgaria for the marketing of cooperative products. An interesting recent example of this last possibility is a mixed company (*Irion-Car Vertriebs GmbH*) established in Stuttgart, in partnership with a wholly owned subsidiary of *Daimler-Benz*, to market Bulgarian electric forklift trucks in the Federal Republic.

The available data do not indicate that the formula established by the 1974 decree has as yet been extensively employed, although the time elapsed thus far provides a very limited test. The 1976 ECE sample shows a concentration of Bulgarian agreements in the categories of licensing or delivery of plant and equipment, in exchange (at least partially) for products or components, that is well above the Eastern European average. The 1975 Carleton sample shows sale of complete plant to be a component of Bulgarian agreements twice as frequently as in the agreements of other Eastern countries (except the USSR). On the other hand, the Carleton sample shows a normal share of production contracting among Bulgarian agreements.

Both studies reveal a much larger share of Bulgarian cooperation agreements occurring in the food, beverages and tobacco industries than average for Eastern countries generally. However, the largest share of Bulgarian cooperation agreements are concentrated in the non-electrical machinery industries, followed by chemicals and electrical machinery and electronics.

The coordination and supervision of cooperation agreements is the responsibility of the Bulgarian Ministry of Foreign Trade (which has a special Department of Economic and Industrial Cooperation) and the State Committee for Science, Technical Progress and Education. In addition, a State Committee on Foreign Economic Relations was created in 1974, at the time of the new decree on industrial cooperation. The Committee, with four foreign trade enterprises dealing in complete plants and equipment subordinate to it, seemed destined to play a special role in cooperation contracts. However, the Committee was reportedly abolished in mid-1976, in what has been interpreted as a victory for the Ministry of Foreign Trade in reasserting its jurisdiction.<sup>40</sup>

Bulgaria's progress in realizing its aims with regard to EWIC has undoubtedly been slowed by its strong traditional trade orientation towards the USSR and the other CMEA countries. It is probably also due to the problem of integrating EWIC agreements into the centralized Bulgarian economic system. The 1974 regulations attempted to resolve this problem formally by providing for the incorporation of cooperation commitments into the national plan and for the allocation of supplies from reserves as necessary for the attainment of cooperative goals (Article 9). The Bulgarian stress on substantial repayment in resulting product has undoubtedly also been a deterrent to the growth of cooperative relationships with Western firms.

### *Czechoslovakia*

Czechoslovakia's special policy interest in EWIC is in its potential as a means to improve the structure of the country's industrial production. As an industrialized country, Czechoslovakia's trade is heavily concentrated (more than half of exports and nearly two-fifths of imports) in the machinery and equipment categories. At the same time, insufficient specialization in production and trade is a major drag on productivity. The over-diversification of industrial output has resulted in inefficient production runs.<sup>41</sup> International industrial cooperation is seen in these circumstances as a means to achieve desired specialization and the resulting economies in production.

The importance of EWIC has been affirmed by government officials and party leaders<sup>42</sup> and cooperative ties have been promoted by senior ministries. The Ministry of Foreign Trade (which has a section devoted to industrial cooperation) views it as a means of raising export potential; the Ministry for Technical and Investment Development recognizes cooperation as a mechanism for the introduction of foreign technology needed to promote the goals of industrial restructuring; the Ministry of Finance favors EWIC as a means of reducing hardcurrency outlays.

<sup>40</sup>*Business Eastern Europe*, July 9, 1976.

<sup>41</sup> A Czechoslovak source calculates that Czechoslovak industrial output includes 75-80% of the principal types of machinery and equipment produced in the world at large. (Nykryn, 1974, p. 19.)

<sup>42</sup> See the series of articles published in the party economic newspaper, *Hospodarske Noviny* (Nos. 41 and 43, 1973, and 28 and 45, 1974) by Dr. Rudolf Kobza of the federal Ministry of Foreign Trade. More recently "unconventional ways" have been advocated to meet the problem of declining export markets in the West and new measures have been announced to facilitate and encourage the negotiation of cooperative ventures with Western firms. (See *Rude Pravo*, Dec. 18, 1976 and *East-West Markets*, Jan. 10, 1977.)

On November 1, 1972, the Federal Assembly enacted a special law (No. 85/1972) "concerning procedures for the conclusion of agreements on economic cooperation with foreign countries".<sup>43</sup> The Act does not define economic cooperation rigorously but has industrial cooperation clearly in mind, stressing cooperation in production, with scientific and technical cooperation and production specialization as key components (Article 1.3). Under the Act, cooperation must be based on a specific enterprise agreement which in turn requires approval of higher authorities. The Act outlines the approval process, which depends in part upon the nature and ministerial subordination (federal, cooperative, local) of the Czechoslovak partner enterprise but in all cases requires approval of four senior federal bodies (the three ministries cited above and the State Bank).

The Act also affirms the jurisdiction of the Ministry of Foreign Trade over the commercial aspects of cooperation agreements. A foreign trade enterprise is usually a co-party to an agreement, together with the relevant production enterprise or association (VHJ) or, if the cooperation is purely commercial, the sole party. Nevertheless, an industrial enterprise or association can enter into a cooperation agreement without the partnership of a foreign trade enterprise, if authorized by the Ministry of Foreign Trade to export and import directly goods covered by the agreement.

Czechoslovakia ranks among those Eastern countries which have participated less actively in EWIC (see Table 3).<sup>44</sup> A majority of the agreements concluded have been with FRG firms, with the remaining cooperation partners located in those Western European countries with which the CSSR maintains most active trade relations: Austria, France, Italy, Sweden, Spain, the Netherlands. These countries are also countries with which Czechoslovakia has concluded inter-governmental agreements for industrial and technical cooperation, although production cooperation agreements at the enterprise level do not have to be covered by inter-governmental accords.

Sample data show that over two-thirds of the EWIC agreements concluded by Czechoslovakia are in the producers' goods industries, with a concentration (shared with most other Eastern countries) in non-electrical machinery, transport equipment and chemicals. A high proportion of the agreements take the form of production contracting of components by the Western firm, but co-production (where both parties specialize in the production of components and exchange them so that each produces and markets the final product) is more common in Czechoslovak arrangements than in those of other Eastern countries (see Table 4). About half of Czechoslovakia's production specialization agreements with Western firms are on the basis of a Western license.

Despite Czechoslovakia's industrialization, considerable awareness and expertise in the field of international industrial cooperation,<sup>45</sup> apparent high-level policy support for EWIC, special enabling legislation, and institution of a bilateral framework (inter-governmental

<sup>43</sup> The law replaces earlier cooperation legislation passed in the reformist year of 1968.

<sup>44</sup> An official Czechoslovak source stated in late 1976 that only 22 cooperation agreements were then in force with Western firms, and that about half of these were dormant because the Czechoslovak partner had proved unable to supply products of the required quality at a competitive price. (Reported in *Business Eastern Europe*, Nov. 5, 1976).

<sup>45</sup> Nykryn (1972) is an illustration; see also the articles and unpublished papers by Rudolf Kobza.

agreements and mixed commissions) for cooperation with many Western countries, Czechoslovakia has lagged behind most other Eastern countries in terms of degree of participation in EWIC. What factors explain this paradox? <sup>46</sup> The explanation would appear to lie in two sets of factors: political and systemic. While there is a definite policy commitment to EWIC and concern over the slow growth of Czechoslovak cooperation agreements in 1973-74 when other Eastern countries were rapidly expanding their participation, there is also a strong policy preference for industrial cooperation with the USSR and with the other CMEA countries. The CSSR has therefore preferred to move cautiously, stressing more advanced forms of East-West cooperation suitable to its level of industrialization and paramount objective of production specialization. The political aftermath of 1968 has undoubtedly had an inhibiting influence on both sides.

Systemic factors are probably of equal if not greater importance and are stressed in Czechoslovak analyses. Approval procedures are cumbersome and are complicated by the fact that cooperation agreements cut across ministerial jurisdictions. Moreover, enterprises are generally considered to lack incentives to take the initiatives required for the conclusion of complicated and risky cooperation contracts with foreign partners. It is not that incentives do not exist; in fact the government has sought to make cooperation profitable by attaching special income bonuses to deliveries to the West under cooperation agreements, and by granting special income tax incentives to participating Czechoslovak firms. However these incentives have been increasingly viewed as insufficient.

The response has been a continuing search for ways to increase incentives and to reduce bureaucratic obstacles to cooperation.<sup>47</sup> A specialized foreign trade enterprise, FINCOM, originally established to support Czechoslovak business investments abroad, especially in the LDCs, has recently been given responsibility for the promotion of industrial cooperation agreements, along the lines of specialized agencies in Hungary (see below). FINCOM is to maintain a data bank on potential projects and partners and to provide services to Czechoslovak enterprises and Western firms in the negotiation of agreements. It may also act as a partner to a cooperation contract, if no single foreign trade enterprise is appropriate to the role.<sup>48</sup>

### *German Democratic Republic*

Industrially the most advanced of the socialist countries, and therefore a potentially important partner for Western firms, the GDR might be expected to head the list of Eastern countries in terms of EWIC arrangements. Instead, it trails the list, its degree of involvement (like that of the CSSR) currently out of step with its level of

<sup>46</sup> To some degree the apparent lag is merely a statistical phenomenon. Our estimates (Table 3) place the CSSR in a higher relative position than is often ascribed to it. This is because the Czechoslovak statistical definition of cooperation is (in keeping with CSSR policy objectives) a narrower definition than that employed by most socialist countries. Hence Czechoslovak official figures are in closer accordance with Table 3's cumulative estimates of agreements concluded than are other Eastern official statistics.

<sup>47</sup> New tax and other incentives were introduced by Ministry of Foreign Trade regulations issued in 1976. Moreover, the approval process has been simplified, with small deals (involving exchange of goods to a value not exceeding three million crowns) at the discretion of the enterprise manager, and medium-size contracts (involving exchanges below 10 million crowns) requiring only the approval of the industrial ministry concerned (*Business Eastern Europe*, November 5, 1976).

<sup>48</sup> Author interview with enterprise officials. See also *Czechoslovak Foreign Trade*, No. 11, 1976.

industrial development. In the case of the GDR, this has been the result of conscious policy. GDR policy in this area is changing, however; and GDR participation in EWIC is gradually developing and evolving.

The reluctance of the GDR to engage more actively in cooperative ties with the West has been in line with its general foreign policy position and has been dictated in part by external factors. To the GDR, its relationship with the USSR and with the CMEA has been of prime importance. Economic relations with the West, on the other hand, have been dominated by carefully controlled trade, on special terms, with the FRG; and the introduction into these relations of cooperative links between GDR enterprises and FRG firms has been politically unpalatable. Meanwhile, the GDR remained diplomatically isolated from many of the Western countries.

In the course of the 1970s, there has been a sharp change in these external factors. The Soviet Union and the other CMEA countries have rapidly stepped up their trade and cooperation with the West, and East-West relations and CMEA integration have come increasingly to be regarded in the East as compatible trends. At the same time, the establishment of diplomatic relations between the GDR and the Western countries has created the opportunity for new economic relationships.

These changes in the political parameters have been accompanied by increasingly cogent economic reasons for adopting a more positive attitude towards economic cooperation with the West. For a country short of raw materials and labor, not only trade but also international industrial cooperation have become crucial factors in further economic development. Hence the GDR's interest in long-term cooperative arrangements for the supply of industrial raw materials and intermediate products, and for the introduction of Western labor-saving technology. Western know-how and cooperative East-West production and marketing relationships can also facilitate GDR efforts to rationalize investment and eliminate less efficient product lines. With the increase in the cost of Eastern, as well as Western raw materials and energy supplies, the self-financing features of EWIC have gained in attraction.

A first stage in the GDR's move to a new policy on EWIC has been to establish links at the governmental level. In a few years, beginning in 1973, an impressive series of bilateral agreements for economic, industrial and scientific-technical cooperation have been negotiated, linking the GDR to all of the major Western European countries except the FRG (see Table 1). These agreements serve a quasi-legislative role in the absence of special GDR legislation on industrial cooperation, and the mixed commissions and joint working groups established under them constitute machinery through which potential projects can be identified and partners matched.

The relatively small number of agreements with Western firms concluded in these years have been limited to a few categories. One of the formulas most frequently employed thus far is to conclude a long-term "framework" agreement with a large Western company, envisaging cooperation in any or all of three major areas: (1) Commercial cooperation, with target figures for categories of goods to be exchanged (these long-term, trade agreements have been employed

especially in the chemicals sector), (2) scientific and technical cooperation, covering exchange of scientific and technical information, licenses and patents and technical and commercial assistance, and (3) cooperation in third markets.<sup>49</sup> On the GDR side, these agreements are called *konsortialverträge*, because one foreign trade enterprise customarily signs the contract as the head of a consortium of GDR enterprises and enterprise associations participating in the arrangement. Often, working groups are set up under these agreements to meet regularly. Agreements of this sort have been reportedly concluded with (among others): *Dow Chemical* and *Rockwell International* (US) *Montecatini Edison*, *ANIC*, *Fiat* and *Olivetti* (Italy), *Mitsui* and *Nippon Steel* (Japan) and *Vöest-Alpine* (Austria). Among other functions, such agreements serve to familiarize large Western firms and their clients with GDR industrial products, as yet relatively unknown in the West.

The *Vöest-Alpine* agreement is cited as a model arrangement by GDR officials. It began with a turnkey chemical plant in the GDR, in which some GDR enterprises participated as sub-contractors. It then developed into a long-term commercial cooperation agreement and a joint program of development projects in third countries, including an oil refinery in Mauritania and lignite mining and processing facilities (on the basis of GDR brown coal technology) in Australia.

From the GDR perspective, such arrangements are appropriate because the GDR partner plays a more equal role than in the usual East-West production contracts. Nevertheless, the GDR has entered into licensing and franchising agreements in the consumer goods industries which have developed production contracting features. The pressure for self-financing seems likely to lead to the increased use of this form,

It had previously been believed that if the GDR began to engage in cooperation with Western companies, its last recourse would be to FRG firms. Nevertheless, framework agreements were concluded in 1975 with two leading firms in the FRG, *Farbwerke Hoechst* and *Krupp*. More recently a contract was concluded with the large FRG shoe manufacturer, *Salamander*, for GDR production of Salamander designs to be marketed in both Germanies. This last therefore represents a departure in terms of type of arrangement as well as nationality of partner.

#### *Hungary*<sup>50</sup>

As was shown in Section 3, Hungary has been the most active of the Eastern European countries in concluding EWIC agreements with Western firms. Official Hungarian data on numbers of agreements concluded incorporate forms not covered in the ECE definition, and are therefore higher than the estimates presented in Table 3.<sup>51</sup> Hungary's most frequent Western partners have been firms located

<sup>49</sup> These agreements, while broad in coverage, have been considered sufficiently substantive to be included in Category II of Table 3.

<sup>50</sup> Hungary's experience has been the object of an intensive study undertaken by Mr. Hugo Radice for the Centre for European Studies at Sussex University, the results of which have not as yet been published. Some preliminary findings were reported in Radice (1975). The joint Hungarian-FRG handbook on cooperation (1975) contains much useful information on Hungarian conditions and experience.

<sup>51</sup> At a press conference in Budapest in July, 1976, the Hungarian Deputy Minister of Foreign Trade stated that 410 cooperation contracts had been approved since 1965, of which 226 had entered into force.

in the FRG and in neighboring Austria. The sectors which have been the main objects of cooperation are those which have received priority elsewhere in the East: Non-electrical machinery and equipment, transport equipment, electrical machinery, electronics and chemicals.

As for the type of cooperative activity, within the parameters of the ECE definition a large share of Hungarian agreements have apparently been concentrated in forms of production specialization.<sup>52</sup> On the other hand, many of these are scarcely more than license and know-how agreements with provision for partial repayment of fees in the form of output. Hungarian agreements tend to be small in scale, to entail the processing or finishing of Western intermediate products and to involve the introduction of relatively little new technology.<sup>53</sup> The Carleton study found a much larger share (39%) of Hungary's EWIC agreements to be in consumer-oriented projects and products than was the case for any other Eastern country. The study revealed that only 40% of Hungary's cooperation partners could be classified as multinational corporations, thus providing further, indirect evidence of the relatively small scale of Hungarian agreements.<sup>54</sup>

Cooperation agreements with Western firms have not been necessary for most Hungarian enterprises outside the manufacturing sector; and these enterprises have been the source of the bulk of Hungarian exports to the West. Hungarian officials estimate that in the 1970's 3-4% of Hungarian exports to the West have been carried out under cooperation contracts (although the share of cooperative products in machinery and equipment exports to the West would be substantially higher).

In terms of our comparative perspective, the most unique feature of Hungarian participation in EWIC is its decentralization. The cooperative activity of Hungarian firms is not regulated by special legislation or governed by central authority. The Hungarian civil law was deemed sufficient to permit EWIC agreements, since it allows any form of contract.<sup>55</sup> Cooperation is coordinated by an inter-ministerial committee which functions under the Ministry of Foreign Trade.<sup>56</sup> If enterprises "declare" cooperation in order to benefit from special tax and customs privileges, the agreement must be approved by the committee. Otherwise there is no special registration of agreements. Production enterprises licensed to engage in foreign trade may enter directly into EWIC contracts without participation of specialized foreign trade enterprises.<sup>57</sup>

In addition to the Ministry of Foreign Trade and the Chamber of Commerce, which engage in general policy and promotion, several agencies play a more specialized, intermediary role in EWIC. Two foreign trade enterprises supply information on potential projects, initiate proposals with foreign firms and coordinate negotiations through conclusion of the contract, acting on a commission basis.

<sup>52</sup> See Table 4 above and also ECE (1976, Table 3).

<sup>53</sup> Cf. Hewett (1975).

<sup>54</sup> Hungarian concern about these features of its cooperation "profile" is reflected in recent reports of increased emphasis on large-scale agreements, concentrated in high-technology machinery and equipment rather than in consumer products (*Business Eastern Europe*, December 17, 1976).

<sup>55</sup> See the article by Joseph Varró in Starr (1974), p. 230.

<sup>56</sup> The Interministerial Committee on Cooperation is composed of the Chairman of the National Planning Office, a representative of the National Committee for Technological Development, the Minister of Metallurgy and Machine Industry, a deputy minister nominated by the Minister of Finance, the President of the Hungarian National Bank and the Secretary of State for Foreign Trade, who acts as chairman.

<sup>57</sup> In 1974, 5-6% of overall foreign trade and about 4% of East-West trade were transacted by such enterprises. See Czikos-Nagy (1976, p. 6).

The principal of these, *Intercooperation Ltd.*, is attached to the Ministry of Foreign Trade; the other, *Hunnicoop*, belongs to the Ministry of Machine Building. *Hunnicoop's* activities are concentrated on the key machinery and metallurgical sectors, and its role need not end with the conclusion of the contract. It may intermediate as well in exports and imports under the contract. Through its special Cooperation Department, the Hungarian Foreign Trade Bank not only renders banking services, but helps bring together partners and assist with negotiations.

Because of this decentralization, it is particularly necessary in the Hungarian case to distinguish between levels of motivation. At the macro level, EWIC is viewed as an instrument, in consonance with the NEM, through which the Hungarian economy can be adapted to the changing conditions of the international division of labor. EWIC has been specially promoted in Hungary since 1968. Hungary's heavy dependence on foreign trade and the deterioration in its terms of trade after 1973 have lent special force to this objective. Ties with Western firms are seen as ways to stimulate greater specialization and efficiency in Hungarian enterprises. So that this can be achieved, continuing relationships in the form of long-term production specialization agreements, not merely short-term commission projects, are encouraged.

That Hungarian enterprises do not always share this precise perspective is revealed in a survey undertaken in late 1973 by the Hungarian Chamber of Commerce.<sup>58</sup> Four main objectives were found to prompt enterprises to enter EWIC relationships:

- (a) The aim most stressed was to find a substitute for imports through cooperative deliveries. This objective outweighed export creation or increased efficiency.
- (b) Many enterprises saw EWIC as a means to alleviate the shortage of labor by acquiring labor-saving machinery and technology, especially to improve transport and packing.
- (c) Potential capital cost savings, through the application of investment to proven techniques, were cited.
- (d) Improved knowledge of world markets, through the Western partner, was seen as a means of increasing export sales.

At the same time, the Hungarian enterprises surveyed listed the following as major impediments to cooperation:

- (a) Information about technological developments, about the international market and about other relevant subjects is not readily available.
- (b) The approval process is often lengthy and arbitrary.
- (c) Firms have inadequate knowledge of the privileges attached to cooperation.
- (d) Customs formalities are complicated and the practice of making duty concessions contingent upon reciprocal treatment in the partner country is an unnecessary limitation.
- (e) Enterprises dispose of inadequate investment funds and access to credits to undertake cooperation.
- (f) The foreign trade system is cumbersome and frequently entails the participation of several foreign trade enterprises in negotiations.

<sup>58</sup> Reported in an article by Sandor Cseky, entitled in translation, "On Cooperation Ventures with Western Firms", in *Kulgazdasag*, 8/74, and reported in Radio Free Europe, Hungarian Situation Report/36, September 17, 1974.

The survey indicates that while the system has been decentralized, it has not been streamlined and that a complexity of regulations and red tape remain serious obstacles. The negotiation of an EWIC agreement is acknowledged to take from 18 months to six years!

In Hungarian circumstances, the incentives attached to EWIC agreements are especially important. These include: special credit terms, tax concessions, preferences in the granting of import licenses and customs privileges. Nevertheless, these stimuli appear to have failed to induce Hungarian enterprises, especially large industrial firms, to engage in major cooperative projects with Western partners. The orientation of such enterprises is primarily to domestic and CMEA markets, which are large, stable and undemanding. They may seek to obtain occasional Western technology or know-how on a cooperative basis but regard such contracts as of secondary importance.<sup>59</sup>

A Ministry of Finance decree issued in October, 1972 set forth the conditions under which Western equity investment, in the form of joint ventures with local partners, might be undertaken in Hungary.<sup>60</sup> Two principles underlie the Hungarian approach. Western equity interest in joint ventures in Hungary is generally limited to a minority share. Participation in the sphere of material production through joint ventures must be indirect. (Joint ventures may enter into contractual arrangements with Hungarian production enterprises but may not themselves engage in production.) These restrictions are seen as a means of bridging over the political and social problems which equity investment poses for a socialist country such as Hungary.<sup>61</sup> Joint ventures in Hungary are therefore limited to performing certain trading and liaison functions, usually in connection with a non-equity cooperation agreement between the Western partner and Hungarian enterprises (which are usually also parties to the joint venture). Only three joint ventures have been established since 1972. The joint venture form has been regarded in Hungary as playing a supplementary role in East-West cooperation. New Hungarian regulations on joint ventures have been announced—Decree no. 7 of the Ministry of Finance, May 6, 1977—which would appear to relax significantly the previous conditions on foreign investment in Hungary.

### Poland

While Poland follows Hungary in terms of numbers of EWIC agreements concluded, it is generally believed that they are of greater average value.<sup>62</sup> Certainly the inclusion of several major industrial projects with product payback features considerable raises the value of Polish participation in EWIC. Nevertheless, a number of large projects have more genuinely cooperative aspects.<sup>63</sup> In value terms, Poland probably ranks first among the Eastern European countries.

<sup>59</sup> The Hungarian economist Kalman Peci has argued that this is as it should be and that Hungarian participation in EWIC should be primarily through association with large-scale Soviet and CMEA cooperative projects with the West. See Peci, K., "Komplex Program és kelet-nyugati kooperáció", *Világgazdaság*, 6, 1974, summarized in *Abstracts of Hungarian Economic Literature*, 642/74.

<sup>60</sup> These are described in McMillan and St. Charles (1974) and Zoubek (1974). See also Czikos-Nagy (1976) for a recent, Hungarian view.

<sup>61</sup> Czikos-Nagy (1976, p. 5).

<sup>62</sup> Hungarian officials themselves, for example, have been quoted to his effect. See Radio Free Europe, Hungarian Situation Report/42, November 17, 1976, which gives an account of an article on cooperation which appeared in the October 16, 1976 issue of *Világgazdaság*.

<sup>63</sup> Polish agreements with *Fiat* (Italy), *Massey-Ferguson* (UK), *Berliet* (France) and *International-Harvester*, (US), for example.

While some early Polish EWIC agreements were concluded in the 1960s, growth has occurred principally in the 1970s. As mentioned earlier in this paper, Poland measures its participation in terms of volume of cooperative exports. This volume, at the end of 1974, was more than five times greater than in 1970. It nevertheless constituted only some 1.6% of total Polish exports to the capitalist countries (10% of machinery and equipment exports). By this same measure, in 1974 the FRG and the US were Poland's major cooperation partners (the US share having risen rapidly in 1973-74), followed by Great Britain, Switzerland and Sweden.<sup>64</sup>

Polish studies have indicated that many of the contracts signed, especially with the FRG, are for sub-contracting by Polish enterprises. Table 4 above shows a comparatively greater share of Polish sub-contracting, and production contracting, agreements to involve parts and components than end products (in marked contrast to Hungary, where the emphasis is reversed). Licenses are seen to play a part in more than half of the Polish agreements covered in Table 4. The active participation of the Polish foreign trade enterprise *Polimex-Cekop* in joint tendering with Western firms in third, especially developing, countries is revealed in the larger than average share of Polish agreements for project cooperation (element 15) in Table 4. Like other Eastern countries, Poland's emphasis has been on cooperation in the non-electrical machinery industries, followed by chemicals, electrical machinery and electronics and transport equipment.<sup>65</sup> Metallurgy has been the object of a larger share of Polish agreements than has been the case for most Eastern European countries, according to UN data. Intermediate and final producers goods accounted for more than four-fifths of the Polish agreements in the Carleton sample.

Poland's interest in EWIC is, like that of other socialist countries, linked to a perceived need to improve the composition of trade with the West. EWIC gets to the heart of the matter by focusing on the structure of production, on which trade specialization is based. As such, it is placed alongside other major instrumentalities: investment in export industries and improvements in the foreign trade system. Its role has been described in the following terms by the then Director of the Foreign Trade Research Institute in Warsaw and one of his senior colleagues:

We have to make efforts to better adapt our production to the needs of the highly developed countries. . . We see the need for our industry to master quickly high quality production of modern, functional, and attractive goods, which would better satisfy specific needs. We also see the necessity to improve the organization of sale of our goods on these markets and to develop modern forms of marketing and distribution.<sup>66</sup>

At the same time, it is maintained that by developing cooperation with the West, Poland will become an increasingly attractive partner in economic relations with other CMEA countries.

As noted above, much of Poland's industrial cooperation with Western especially Western European, firms has been in the form of Polish production of parts or components to be incorporated into the partner's product. Typically these are the more standardized, less

<sup>64</sup> These data are taken from Tabaczynski (1976).

<sup>65</sup> As indicated by both the ECE and Carleton samples.

<sup>66</sup> Clamaga, L. and Tabaczynski, E., "Cooperation and East-West Trade", in Foreign Trade Research Institute Collective Study (1973).

technically sophisticated components. If the relationship is successful and develops, the final product is assembled in Poland on the basis of an increasing share of components produced in Poland for marketing domestically and in the CMEA region. A portion of the output (either the final product or a component) is also marketed in the West, through the Western partner.<sup>67</sup> In this way Poland's still comparatively abundant, but relatively unskilled, labor force and natural resources are combined with Western technology and organizational know-how to lower production costs below Western European levels. Increasingly, large, well-known North American firms, directly or through their Western European subsidiaries, are licensing production in Poland on this formula to achieve marketing goals in Western and Eastern Europe.<sup>68</sup>

Poland's hard currency deficits have recently increased official pressures to emphasize the self-financing aspects of EWIC (*samos-plata*). Economists in Poland, however, have not lost sight of the basic strategy of EWIC, to sacrifice short-term balance in the interest of improved long-term export performance. The too primitive linking of exports and imports is seen as a factor which can constrain cooperation undesirably. A "more sophisticated" approach is to regard EWIC as affording longer run benefits from improved access to imperfectly competitive Western markets.

Cooperation policy has also shifted somewhat in recent years in response to the altered international energy and raw materials situation. Poland has lately emphasized inter-governmental agreements which exchange official assurances of access to Polish resources in return for Western official export credit support for the capital equipment and technology to develop them.

In contrast to many Eastern countries, in Poland there is a minimum of special regulations and institutions governing EWIC. There is no separate law on cooperation, which is regulated, as in Hungary, by existing commercial law. The Council of Ministers Ordinance on the Functions of the Minister of Foreign Trade and His Powers in Coordinating Economic Relations with Foreign Countries (July 9, 1971) included among them the responsibility for EWIC, and thereby empowered foreign trade enterprises subordinate to the Minister to engage in cooperative contracts.<sup>69</sup> A Council of Ministers decision (No. 170) issued on August 14, 1971, set forth the authorized forms and areas of cooperation. These extend beyond Definition B of Table 2 to include purchases of licenses and capital goods with payment in unrelated products. Decision 170 also sought to facilitate planning, materials supply and financing for enterprises engaged in cooperation, and increased the scope for participation by production enterprises in the negotiation and execution of cooperation agreements.

There is also no special approval process; and foreign trade enterprises can negotiate cooperation agreements on their own, as in trade relations. They are obliged merely to notify the central statistical office regularly of the volume of trade conducted under such agreements, for accounting purposes. The Ministry of Foreign Trade and

<sup>67</sup> A case study of a highly successful Polish-FRG arrangement is presented by the general director of the German firm, Rolf Hardt, in Saunders (1977).

<sup>68</sup> See Marer et. al. (1975), Chapter 8, p. 17ff.

<sup>69</sup> The Ministry has since been renamed the Ministry of Foreign Trade and Maritime Economy.

Maritime Economy plays a more direct, but still primarily advisory, role in the case of large agreements, involving several FTE's, where there can be problems of coordination. On the other hand, the Ministry has the power to intervene and advise an FTE not to enter into an arrangement which the Ministry regards as undesirable. A production association (WOG) will usually have a foreign trade enterprise within its group through which it is able to enter into cooperation arrangements with foreign firms.

There is no separate department of the Ministry to handle cooperation, although sections in various departments (e.g. machinery and equipment) can be specially charged with cooperation and licensing. In 1972, a special Department for the Promotion of Cooperation with Foreign Companies was established within the Polish FTE *DAL* to initiate, organize and mediate the negotiation of EWIC agreements. At the time, the Department was expected soon to become an independent enterprise, along the lines of the Hungarian firm *Inter-cooperation*.<sup>70</sup> However, this has not worked out; and currently there is no separate agency in Poland with special responsibility for cooperation agreements.

No special incentives for cooperation have been granted, except for the possibility of retaining a small percentage (4-5%) of foreign currency earnings beyond that applying to regular trade. Otherwise, FTE's are supposed to weigh the advantages of cooperation and regular trade by the same profitability criterion.<sup>71</sup> It has been recognized that special incentives may be needed to compensate foreign trade and production enterprises for the risks of cooperation, and to balance the attractions of production for the domestic, or for other socialist, markets. Moreover, initial profit calculations may become obsolete, given rapidly changing world conditions, if negotiations are long drawn out.

In the early 1970s, the Polish government examined the desirability and practicability of extending cooperation to the form of joint equity ventures in Poland. In 1973, following the publication of joint-venture decrees in Hungary and Romania, Poland seemed poised to follow suit. However, it backed off, explaining that no special legislation was required, and that any foreign proposals for arrangements of this nature would be considered. By May 1976, however, it had apparently decided that special regulations were needed and that the time was ripe to issue them.

In so doing, it has in some respects gone farther than other socialist countries, including Yugoslavia; and has added still another "variant" to the set of Eastern European joint venture formulae. The first two decrees issued in May, 1976<sup>72</sup> are in fact not limited to joint ventures at all. They permit foreign investment in the form of wholly owned companies in Poland. However, such investment is limited to certain sectors: small-scale industry, domestic trade and consumer services. These regulations appear to be designed primarily to attract hard currency funds from the Polish diaspora in the West, and to be linked to parallel measures to encourage more domestic, private activity.

<sup>70</sup> *Eastern Europe Report*, July 19, 1972.

<sup>71</sup> This information is based on author interviews with Ministry officials in March, 1975.

<sup>72</sup> Council of Ministers Decree of May 14, 1976 and Ministry of Finance Decree No. 109 of May 26, 1976.

in consumer services. The third decree,<sup>73</sup> while not limited by sector, does specifically refer to the joint venture form.<sup>74</sup> On the other hand, it appears to be more flexible than joint venture regulations elsewhere in Eastern Europe, setting no ceiling on foreign equity participation.<sup>75</sup> In early 1977, the negotiation of several joint ventures (including a Polish-UK venture in shipping and a Polish-Australian venture in food processing) under the new regulations were reportedly close to conclusion.<sup>76</sup>

### *Romania*

Romania's commitment to EWIC is perhaps most strikingly illustrated by the creation in 1974 of a new, main department for cooperation in the renamed Ministry of Foreign Trade and International Economic Cooperation (MFTIEC). This reorganization, however, merely reflected a priority which had been formally established several years earlier by Law No. 1 of March 17, 1971.

This law, which has since remained the cornerstone of Romania's foreign trade system, reflected the important changes which had been instituted in the organization of Romania foreign trade in the preceding several years, and which were intended to facilitate Romania's increasing commercial orientation towards the West. Law No. 1, formally titled, "On Foreign Trade and Economic and Technical-Scientific Cooperation Activities in the Socialist Republic of Romania" treats cooperation alongside trade, as a major sphere of external economic relations. The forms of cooperation are not defined in the law, except that it is stipulated that they are to include joint companies in Romania (see below). The Law specifies (Chapter V, Art. 55) the objectives of cooperation in terms which may be paraphrased as follows:

- (a) To intensify Romania's participation in the international division of labor through cooperation with countries "regardless of their socio-political systems";
- (b) To promote the growth of the national economy;
- (c) To improve the structure of trade, especially exports;
- (d) To introduce the latest and most effective foreign technology, in order to raise the technical level of domestic production; and
- (e) To enable Romania to play a more active economic, commercial and financial role abroad.

Romania has in practice defined cooperation broadly. This fact, combined with high-level pressure to record as many cooperation agreements as possible, has resulted in Romanian official figures for numbers of agreements signed (some 250 in 1976) which are considerably higher than the estimates presented in Table 3, based on the ECE definition.

Given the stage of development of the Romanian economy and the continued emphasis on rapid industrialization, it is scarcely surprising that EWIC in the form of acquisition of plant and equipment, with at

<sup>73</sup> Ministry of Finance Decree No. 110 of May 26, 1976.

<sup>74</sup> While no reference is made in the decree to other legislation, it presumably is intended to clarify conditions and procedures on the basis of legal principles regarding foreign investment established in pre-war Polish legislation.

<sup>75</sup> The form and size of joint ventures are also left unspecified. A ten-year limitation is set on the life of such arrangements, subject to renewal.

<sup>76</sup> *Business Eastern Europe*, January 7, 1977, and *East-West Markets*, November 1, 1976.

least partial payment in resulting product, should play a major role in Romanian agreements.<sup>77</sup> In fact, credit extended in the form of equipment and repaid in the form of products and services (a method of long standing in CMEA regional development programs) was proposed in the Romanian submission to the first session of UNCTAD in 1964, and became known as the "Romanian formula". Other principal forms of Romanian EWIC include repayment of licenses and know-how in parts and components, subcontracting and assembly of components supplied by the Western partner. Romanian payment of technology, capital goods and components is also frequently made in agricultural products.

The machine-building industries (especially non-electrical machinery and transport equipment) and chemicals have been the principal objects of Romanian cooperation agreements with Western partners. This emphasis represents not only current, but past, priorities, since these are the industrial sectors in which the Romanian economy is most advanced, and therefore most capable of meaningful cooperation with Western firms.

Other than Law No. 1, already cited, no special Romanian legislation governs non-equity cooperation, and the conclusion of the several contracts which usually make up an EWIC arrangement follows normal commercial and juridical practice.<sup>78</sup> Because of the centralized nature of the Romanian economic system, cooperation agreements (both general and specific) are often concluded with Western firms at the ministerial level. Foreign trade enterprises in Romania are by no means uniformly subordinated to the MFTIEC. Many are attached directly to industrial ministries or to their subordinate production associations ("centrals"). In cases where industrial ministries or their subordinate agencies are partners to cooperation agreements with Western firms, the MFTIEC's role is an indirect one. Together with the Government Commission for Economic and Technical Collaboration and Cooperation, it coordinates EWIC at the national level, including the inputs of various agencies such as the Ministry of Finance and the Romanian Bank for Foreign Trade.

Law No. 1 also created the possibility of establishing joint equity ventures or mixed companies in Romania.<sup>79</sup> These have been the focus of national and international interest in terms of Romanian EWIC opportunities. Romania was the first CMEA country to introduce this possibility, and has continued to regard joint ventures as the "highest form" of cooperation. The nature of joint ventures in Romania, the Romanian government's motives in encouraging them and its initial experience with them, have attracted considerable attention and have been described and analyzed in the English-language literature.<sup>80</sup>

The special feature of the Romanian approach is that it permits the formal establishment of joint companies which are able to engage directly in production operations in Romania.<sup>81</sup> In order to accom-

<sup>77</sup> Based on Romanian statements, and substantiated by both the ECE and Carleton samples.

<sup>78</sup> See the discussion of Romanian foreign trade law by Jay Burgess, in Starr (1974).

<sup>79</sup> In November, 1972, two important decrees were issued, specifying the organization and operation of joint companies in Romania and the taxation of their profits.

<sup>80</sup> See McMillan and St. Charles (1974), Zoubek (1974) and Burgess (1974).

<sup>81</sup> In these respects the Romanian approach contrasts with the approaches to joint ventures adopted by Hungary and Yugoslavia. See McMillan and St. Charles (1974), Chapter 4.

modate them in the centrally planned Romanian economy, Romania has dealt with them in what has come to be known as the "enclave" formula. These companies are not treated like other enterprises in Romania, but stand administratively outside the planned economy, dealing with it like foreign firms through Romanian foreign trade enterprises and maintaining accounts in hard currencies.

Although Romanian legislation permits joint ventures in agriculture, construction, tourism, transport and trade, technical and scientific research and other services, emphasis has been on export-oriented ventures in industry, especially in the machine-building and chemical branches. By the end of 1976, six joint venture agreements had been approved, one each with firms in the US, FRG, Italy, Japan, France and Austria. The Franco-Romanian joint venture, for the production of medical equipment, is reportedly defunct.<sup>82</sup> On the other hand, the slow growth of joint ventures in Romania since 1972 has been given a boost by the recent announcement of a large-scale agreement with Citroën of France to build a jointly owned plant for assembly in Romania of a new Citroën model (a small passenger car) for the Romanian and Western markets.<sup>83</sup>

### *Yugoslavia*

Yugoslav policy with regard to industrial cooperation is based on considerations similar to those present in other Eastern European countries, and in many developing countries. Through acquisition and assimilation of Western technology and know-how, and creation of direct and continuing production and marketing links between individual Yugoslav and Western firms, industrial cooperation is seen as a means to raise the level, and improve the structure, of Yugoslav integration into the international division of labor.<sup>84</sup> The object has been less the attraction of outside capital than the desire to have continued access to the latest technology and to improve, through close contacts with foreign partners, the organizational efficiency of the Yugoslav enterprise.

These general motivations have been supplemented by special considerations, more particular to Yugoslavia. The interest in attracting Western participation in non-equity forms of industrial cooperation and in joint ventures in Yugoslavia, is part of a general policy thrust, stemming from the mid-1960's towards the goal of a market socialist economy. The relaxation of controls on international factor mobility coincided with gradual reductions in controls on external and internal, trade and on domestic investment. Permission, and encouragement, of labor outflows and capital inflows were in consonance with market principles and facilitated attainment of marketization goals. Moreover, they were inter-related. If emigration eased employment problems in the short run, industrial cooperation and foreign investment offered the prospect of longer run domestic employment of Yugoslav workers employed abroad. These employment goals were linked to a further aim. Industrial cooperation and joint ventures were perceived as potential instruments of regional development policies and attempts:

<sup>82</sup> *Business Eastern Europe*, December 24, 1976.

<sup>83</sup> *Business Eastern Europe*, January 7, 1977 and *East-West Markets*, January 10, 1977.

<sup>84</sup> Cf. Bicanic (1973, Chapter 8).

were made (primarily through tax incentives, but also through procedures for federal coordination) to ensure a desired regional impact.

Domestic enterprise autonomy makes legislation the principal mechanism through which national policies on industrial cooperation and joint ventures can be expressed and applied. Two laws adopted in early 1973, attempted to consolidate earlier legislative acts. These two laws remain the basic legislation in both areas.<sup>85</sup> The Federal Government also regulates new agreements through procedures for central approval and registration of contracts; the Federal Committee for Energy and Industry has been charged with coordinating these procedures.

A federal decree on "long-term production cooperation between domestic organizations of associated labor and foreign parties" was issued on January 7, 1973. It defines production cooperation and establishes conditions, procedures and incentives for it. The emphasis is on production specialization and mutual deliveries of industrial components, and the decree seeks to ensure that both new technology and expanded export opportunities accrue to the Yugoslav partner.<sup>86</sup> Agreements are to be concluded for a term of not less than five years, and incentives are provided in the form of special privileges granted to Yugoslav partners in the use of hard currency earnings derived from production cooperation.

A Yugoslav submission to the United Nations reported the conclusion (since 1967, and as of mid-1976) of 478 long-term production specialization agreements with foreign partners<sup>87</sup>. Firms based in Western Europe were the partners in four-fifths of the agreements signed, with FRG partners the most prevalent.<sup>88</sup> An overwhelming proportion (81%) of these occurred in the engineering, or machine-building, industries (45% of total in non-electrical machinery and equipment, including machine tools, and 27% in electronics and electrical equipment). A recent Yugoslav study, indicates that the 1973 decree has had some impact on the rate of participation in industrial cooperation; it reports that one-third of all agreements were concluded in the three years following the decree<sup>89</sup>.

Yugoslavia was the first socialist country to permit and encourage foreign equity investment in the domestic economy, in the form of minority participation in joint ventures. As the first socialist country to have followed this course, and as the socialist country with the most extensive joint venture record to date, Yugoslavia's experience has attracted considerable international attention.<sup>90</sup> This literature documents the legislative conditions imposed by Yugoslavia, and their evolution since 1967. A joint venture must take place within the frame-

<sup>85</sup> Both laws were modified by decrees issued in June and October, 1976, which reportedly tighten conditions for industrial cooperation and foreign investment, to ensure that they in fact serve the intended purposes of strengthening the domestic economy and expanding exports. Preliminary details of these new decrees were reported in *Business Eastern Europe*, July 9 and November 12, 1976.

<sup>86</sup> In 1972, the Federal Chamber of Economy set up an office to promote the use of excess production capacity in Yugoslavia by foreign firms; and by mid-1974, well over 1000 contracts had reportedly been signed, more than half in the machine-building industries. (*Eastern Europe Report*, August 25, 1972 and *East-West Markets*, April 22, 1974.) Through the 1973 decree on production cooperation, the Yugoslav government hoped to encourage partners to move from such simple subcontracting to more ambitious forms of cooperation.

<sup>87</sup> UN, ECE, Trade/AC.3/R.8/Add. 2, September 24, 1976.

<sup>88</sup> Plötz (1974) analyzes FRG participation in production cooperation and joint equity ventures in Yugoslavia.

<sup>89</sup> Reported in *Eastern Europe Report*, June 18, 1976.

<sup>90</sup> Sukijasovic (1973), Plötz (1974), McMillan and St. Charles (1974), Zoubek (1974), OECD (1975), and Leamer (1976) are the major studies.

work of a Yugoslav enterprise; and the "organization of associated labor" (the basic intra-enterprise unit of Yugoslav workers self-management) is here, as in the case of production cooperation, the level on the Yugoslav side at which the relationship occurs. The conditions are set forth in the "Law on Investment of Resources by Foreign Persons in Domestic Organizations of Associated Labor", promulgated on April 13, 1973.

Yugoslav official sources report that 144 joint investment ventures had been concluded with foreign partners between January 1, 1967 and July 1, 1976. A small proportion (5-6%) were either never implemented or have since been terminated. In contrast to the lagging US role in non-equity industrial cooperation agreements (in Yugoslavia and elsewhere in Eastern Europe), US firms have been the principal partners in joint venture activity, representing 23% of foreign investment in Yugoslavia (in value terms), followed by the FRG (21%) and Italy (17%). The principal industrial sectors in which these investments have occurred are (by number of agreements): electrical and electronics equipment (25%), non-electrical machinery and equipment, including machine tools (24%) and chemicals (22%).

Many of these foreign investments have been small in scale. Some three-fourths of the Western partners involved have invested less than one million dollars. More than 80% of investment consists of capitalized technology and know-how rather than direct cash or investment goods.<sup>91</sup> On the other hand, value figures probably understate the significance for the Yugoslav economy of the know-how obtained; and neglect important advantages to Yugoslav enterprises in terms of improved access to international markets.<sup>92</sup> There are some signs that the reluctance of Western firms to risk large amounts of capital in the Yugoslav economy is being gradually overcome. The participation of *Dow Chemical* (US) in two joint ventures in Yugoslavia may be a turning point. In any event, the second venture, concluded in 1976 for a \$700 million petrochemical complex on the island of Krk, near the industrial port of Rijeka, in which Dow has contributed 49% of the equity, is a landmark: the largest US investment and the largest joint venture in Eastern Europe.

Despite tax incentives and the attractions of cheaper labor costs, Yugoslavia has failed to attract significant Western participation in industrial cooperation and joint ventures in the less developed regions of the country. As of mid-1976, 84% of production cooperation agreements and 75% of joint venture contracts, signed since 1967, were located in the more advanced republics of Slovenia, Croatia and Serbia. Slovenia (the richest) alone accounted for about one-third of the agreements in each case.<sup>93</sup>

The question of what impact workers self-management has on industrial cooperation and joint investment in Yugoslavia (and vice-versa) is a contentious one. The problem of potential clashes of interest is most acute in the case of joint ventures.<sup>94</sup> Firms interviewed by

<sup>91</sup> The June, 1976 decree seeks to raise the level of foreign contributions and increase their tangible components.

<sup>92</sup> Their understatement in value measures of foreign investment does not imply that these goals have been realized to a satisfactory degree. Yugoslav concern that they have not is reflected in new conditions imposed in the June, 1976 decree.

<sup>93</sup> *Delegatski Vjesnik*, as reported in *Eastern Europe Report*, June 18, 1976.

<sup>94</sup> The question is analyzed, and some legal solutions proposed, in Glickman and Sukijasovic (1971). See also Plötz (1974, p. 146ff.).

the author tended to discount the problem.<sup>95</sup> While workers must approve the formation of a joint venture and basic policies relating to it, they play little role in day-to-day operations. This suggests that any negative impact is exerted on potential investors rather than on the functioning of existing ventures.<sup>96</sup> On the other hand, there has been concern in Yugoslavia that joint ventures may contribute to the erosion of effective self-management, and the new decree effective in June, 1976, specifies in greater detail the self-management rights to be retained by the Yugoslav partner.

## 6. EXPERIENCE, TRENDS AND PERSPECTIVES

The preceding sections have sought to explain what EWIC is, and how it has manifested itself in different Eastern European countries. The concept has been seen to have strong intuitive appeal, but to what extent has it lived up to its promise? Has it in fact provided a functional solution to many of the problems which have traditionally constrained East-West trade?

Survey research to date has been directed primarily at the motivation, negotiation, form and content of EWIC agreements. Little systematic evidence has been gathered on the operational experience of partners to these arrangements.<sup>97</sup> The experience of some Eastern and Western countries is extensive enough to support such analysis. Systematic research in this area is fraught with practical difficulties, however.<sup>98</sup> Most of the insights to date are based upon partial evidence in the form of case studies.<sup>99</sup>

In this concluding section, we shall survey some of the major operational issues which available evidence on experience to date suggests as important. Lest the patient reader who has reached this point in a long paper cry "enough", it should be explained that we shall only briefly touch on relevant points. Some treatments of operational problems is necessary in order to establish a balance with the theoretical advantages of EWIC emphasized in Section 3.

*a. Problems of Western market access.*—While EWIC agreements undoubtedly serve to increase the non-price competitiveness of Eastern products and to improve entry to imperfectly competitive markets in the West, they by no means resolve all problems of access to these markets. Eastern complaints center on these problems.

Trade and technology transfer under EWIC agreements continue to face formal Western import barriers and export controls. While Western tariffs and quotas have on average been significantly reduced, they remain important in some sectors. They and other non-tariff barriers hit hardest at manufactures, which are the principal object of EWIC agreements. In the field of customs duties, preferential

<sup>95</sup> A recent Business International report confirms this, stating "few Western firms with practical experience report clashes with the workers' council representatives" (*Business Eastern Europe*, July 9, 1976).

<sup>96</sup> Plötz (1974, p. 158), while confirming the absence of problems to date, reports concern on the part of German firms interviewed that the tendency towards increased decentralization within Yugoslav enterprises may lead to difficulties in future relations.

<sup>97</sup> The Indiana and Hamburg studies, however, have sought to cover the operation of agreements. See Chapter 9 of Marer et. al. (1975), and Bolz and Plötz (1974), p. 109ff.

<sup>98</sup> For the most part the data lie in an area regarded by all parties as highly sensitive and confidential, and therefore are shrouded in commercial secrecy. What evidence is available is not only partial, but biased: it is usually those cases whose results are exceptional that are made public. The absence of systematic evidence is all the more serious because the available case study material indicates a high degree of diversity among participating firms and enterprises, in terms of both their goals and their experience.

<sup>99</sup> Business International has documented some useful case studies in its reports. Several interesting studies are included in Saunders (1977).

treatment for industrial cooperation has not been introduced in any Western country. On the Western side, the possibilities of tariff advantages have been limited to existing facilities, such as occasional exemptions and relief, temporary admission procedures, and so forth.<sup>1</sup> These have been of limited usefulness. The Eastern countries have sought to gain improved access for cooperative exports through bilateral agreements with Western governments, and have succeeded in some instances in obtaining special quota exemptions for such products. Eastern countries have also granted customs preferences, especially in the form of duty-free entry for Western intermediate products which are re-exported after processing.<sup>2</sup>

In these circumstances, shifts in Western commercial policy can have an important impact on existing cooperative relationships. The special trade status negotiated in 1972 between Austria and the EEC, reduced the competitiveness of Hungarian exports to Austria, many of which are conducted under cooperation agreements. In addition to the change in tariff structure, new rules of origin have affected the Hungarian content of goods produced cooperatively with Austrian firms.<sup>3</sup>

Eastern countries also complain of the frequent failure of Western partners to live up to purchase commitments under EWIC agreements. The 1974-75 recession in the West served to reinforce any such tendencies. In some instances, the bankruptcies of Western partners have brought an abrupt and untimely end to cooperative plans and hopes.<sup>4</sup>

*b. Accommodation with Eastern planning systems.*—While the planned nature of the Eastern economies provides advantages to cooperating partners, it is also the source of major operational problems. EWIC seeks to link directly partners operating within fundamentally different economic systems, and thereby creates special problems of coordination.

In principle, planners can allocate required inputs at fixed terms; in practice, uncertainties of supply and deficiencies in quality are the subject of recurrent complaints by Western firms. The Eastern response has been to accord EWIC special treatment within domestic and foreign trade plans and to establish material reserves from which cooperating enterprises may draw.

The Eastern system of priority planning can create unanticipated shifts in demand as severe as those encountered in a market system. There have been instances where this has disrupted EWIC arrangements.

While cooperation agreements are intended to cut through the bureaucratic buffer which separates Eastern production units from foreign firms, foreign trade enterprises remain in most cases the immediate parties on the Eastern side. EWIC agreements must contend with other problems of ministerial jurisdictions which they inevitably cut across.

<sup>1</sup> For details, see UN ECE (1973) and also "Economic and Trade Policy of the ECE Countries with Regard to Industrial Co-operation," note by the Secretariat, October 5, 1976 (TRADE/AC.3/R.5).

<sup>2</sup> The membership in GATT of several Eastern European countries has constrained their ability to accord tariff preferences to goods falling under EWIC agreements.

<sup>3</sup> See Horchler (1975). The trade and cooperation of other Eastern European countries were presumably also affected. Moreover, other EFTA countries negotiated agreements with the EEC at the same time as Austria.

<sup>4</sup> The bankruptcy, for example, of *Anker-Werke AG* (FRG) has disrupted an agreement, involving partners in Hungary and the CSSR, which had been often cited as a model arrangement.

Even in the more centralized Eastern economies, there has been a divergence between the interests of the government and those of the enterprises with regard to EWIC. Enterprises have generally lacked the resources, autonomy and incentive to engage in EWIC; and a solid basis at the enterprise level is essential to viable cooperation. Experience has shown that inter-firm cooperation cannot be successfully imposed from above. The problem here is analogous to that of enterprise innovation in the Eastern systems. Like innovation (of which it is in fact a form), EWIC involves risks to enterprises which are inadequately rewarded. In this respect EWIC agreements contrast with domestic and CMEA contracts which, once regularized, tend not only to be more "profitable" but to take care of themselves. The problem of adequate enterprise incentives is of concern in all the Eastern European countries and we have reviewed various country responses in Section 5.

Effective transfer of applied technology is hindered by the Eastern tendency to separate production and R&D functions in different organizational entities. Neither the foreign trade nor the production enterprises which are party to EWIC agreements on the Eastern side may have the interest or the technical capability to ensure that Western technology is assimilated.<sup>5</sup>

Many of these problems reflect the fact that EWIC attempts to establish links with foreign firms of a kind unfamiliar even between domestic enterprises in the more centralized Eastern economies.

*c. Limitations on joint management.*—Shared management of pooled assets has proved more of a promise than a reality in most EWIC agreements. Here systemic differences have compounded the usual cultural and linguistic barriers to effective joint management found in international industrial cooperation in other contexts. Important operational decisions in the East may be taken at levels above the enterprises who are parties to EWIC agreements. The requirements of industrial secrecy and the complexity of bureaucratic channels in the East inhibit free communication, which is the essential basis of coordination. While there are important exceptions, successful cooperation has tended to be limited in these circumstances to those simpler forms and products which have demanded minimal joint management and where on-site quality control has not been required.

*d. Payment problems.*—These too have deep systemic roots. The absence of operational exchange rates linking domestic and foreign prices in Eastern Europe complicates the negotiation of price terms for goods and services obtained with the Eastern economies. It also creates difficult problems of accounting under EWIC agreements. The inconvertibility of Eastern currencies has also inhibited the use of EWIC to expand regional sales by the Western partner. Unless such sales can be made for hard currencies, the Western partner's income from such expansion realizable in hard-currency tends to be tied to the volume of hard-currency earnings from exports to the West under the agreement. While Eastern partners have been anxious to receive at least partial payment for the products of EWIC marketed in the CMEA region in hard currencies or in hard goods, this is often

<sup>5</sup> Hewett (1975) finds evidence of this in Hungary, and one would expect the effect to be stronger in more centralized systems in Eastern Europe.

possible only if they are sold at substantial discounts on world market prices.<sup>6</sup>

*e. Compatibility of objectives.*—Operational problems have also arisen because of the inconsistency of objectives pursued through EWIC. Some of the more important sources of conflict can be briefly cited. Obviously both partners cannot enter into a cooperative agreement solely for the purpose of expanding exports. We have referred to the way in which the need to maintain a balance of hard-currency payments under an agreement can inhibit regional sales expansion. For the Eastern partner, there may also have to be a trade-off between self-financing objectives and the desired infusion of Western plant and technology. The Eastern desire for the latest technology, and the priority placed in the East on EWIC agreements in capital-intensive industries, can conflict with the Western aim of transferring to Eastern locations relatively labor-intensive processes, based on comparatively standard technology. Finally, the problem of coordinating EWIC and CMEA regional specialization goals has not been solved; and the different payments systems, planning procedures and enterprise incentives which are attached to each impede such coordination.

Successful cooperation then is dependent upon the avoidance or resolution of these operational problems. The success of a particular agreement can usually be explained in terms of such factors as the basic compatibility of the specific objectives pursued, strong technical and commercial complementarities between the partners, partner autonomy on the Eastern side and scope for direct contacts. These considerations also explain the evolutionary character of many successful cooperation agreements, which develop as operational obstacles are surmounted. Finally, the human element in this evolutionary process should not be underestimated. Personal rapport between key executives, based on mutual understanding and respect gained through shared experience, can often overcome serious institutional impediments.

Available information indicates that the numbers of new cooperation agreements concluded in a given year have grown rapidly since 1968, albeit from a very low initial level.<sup>7</sup> From 1970 through 1974 there seems to have been a consistent upward trend in this rate of growth. The ECE reports a slight downward trend after 1974, which it attributes to the recession in the West and feels may therefore be temporary.<sup>8</sup>

These observed trends are probably valid, although in the absence of adequate information on the universe of EWIC agreements, they are based on sample data. Apart from the difficulty of precisely dating complex agreements which usually take several years to negotiate, these measures have further important weaknesses. They do not measure growth in the value of EWIC. Even in terms of numbers, they are gross rates of growth, since they do not take account of agreements which have become dormant or have been formally terminated. Most importantly, they fail to capture the internal growth of existing agreements and the progression to new and more complex forms.

<sup>6</sup> EWIC can, however, facilitate Western partner sales outside the agreement precisely for payments reasons. A CMEA buyer may be more willing to purchase equipment, for example, because replacement parts are available in the region on clearing account as the result of an EWIC agreement.

<sup>7</sup> See Table C and associated discussion in McMillan (June, 1976); see also UN, ECE (1976, p. 2).

<sup>8</sup> UN ECE (1976).

It is quite possible that there might have been some leveling off in the growth of new EWIC agreements, even in the absence of recession effects.<sup>9</sup> This writer believes that EWIC will nonetheless continue to develop, and will not prove to have been a transitory phenomenon of the early 1970s. It will grow despite the operational problems and limitations cited above. The forces motivating EWIC, outlined in Section 4, are not temporary. Moreover, international industrial cooperation is a general phenomenon, and its extension to the East-West context can be viewed as a manifestation of the increasing incorporation of East-West relations into the mainstream of the international economy. The future growth of EWIC seems likely to lie as much in the expansion and development of existing arrangements as in the establishment of new links. While the growth of equity forms has been slow, there are signs that they will continue to develop and that the joint venture possibility will spread to other countries in Eastern Europe. Joint companies in the West also seem likely to become increasingly important.

Ironically, systemic effects both impede and stimulate the growth of EWIC. Differences in socio-economic systems lie behind many of the operational problems reviewed in the preceding pages. One may possibly even question, as one Eastern writer has, how extensively forms originally developed in the context of private ownership and free flows of capital and commodities can be applied to East-West relations, where on the Eastern side state enterprises function in the framework of state planning and control.<sup>10</sup> On the other hand, EWIC may also be regarded as a pragmatic response to the systemic factors which have hampered traditional East-West commercial relations.<sup>11</sup> Moreover, the extra-market character of EWIC appeals to planners. A Czechoslovak official has expressed this in the following way, "Trade in products for unknown consumers is usually *short-term, competitive and subject to chance*. The advantages of cooperation are its *planned, far-seeing character, guaranteeing* benefits to both sides for many years."<sup>12</sup>

Most of the attention in studies on EWIC has been directed towards macro-economic considerations in the East and to micro-economic motivations in the West. Western governments have also formally encouraged EWIC, especially through conclusion of bilateral cooperation agreements with Eastern governments, establishment of special machinery under these agreements and extension of active credit policies in support of EWIC. They have done so in the belief that these measures would establish an environment for a more stable development of East-West commercial relations. Concern for future supplies of energy products and other raw materials has further contributed to their interest in industrial cooperation with Eastern countries.

At this juncture, with the attainment of considerable practical experience in EWIC, other policy issues arise. Are government programs in support of EWIC worth the time and effort? In what ways? If EWIC

<sup>9</sup> While slack demand and general uncertainty may have served to discourage Western firms from embarking on new ventures in Eastern Europe, the recession also increased the relative attractiveness of Eastern locations and markets. There is reason to believe that the downward trend after 1974 may have also been caused by the redirection of Western investment interest toward the oil-producing countries in the Near East.

<sup>10</sup> Csikos-Nagy (1976, p. 3).

<sup>11</sup> Cf. McMillan (July, 1976, section E).

<sup>12</sup> Rudolf Kobza, as quoted in *Business International, Doing Business with Eastern Europe*, 1976, IX-3: (Emphasis added.)

is an effective channel for West to East transfer of technology, what are the implications in terms of strategic considerations, in terms of relative East-West international commercial competitiveness? What are the employment effects of transfer of production to Eastern locations? Is the inter-firm bilateralism which EWIC promotes desirable, and what are its implications for Western anti-trust policies? Examination of these policy issues is beyond the scope of this paper, although we have tried to provide a sound informational and analytical base on which they can be usefully explored.<sup>13</sup>

Regardless of possible overstatement of the current significance of EWIC in the estimates of Table 3, hundreds of enterprises in Eastern Europe have now established relationships with Western companies which provide not only for licensing of industrial processes and products, and for transfer of know-how, but for continuing production and marketing cooperation. A great deal more systematic research is required to assess the impact of these relationships on the partners, on their economies and on their economic systems. In no other area would cooperative research between East and West seem more necessary, more appropriate, and more in the interests of both sides.

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<sup>13</sup> Many of these questions are examined in the US context by Marer et. al. (1975).

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# THE DEVELOPMENT OF JOINT ECONOMIC AND INDUSTRIAL COOPERATION IN EAST-WEST TRADE

BY POMPILIU VERZARIU, JR., AND JAY A. BURGESS\*

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### I. INTRODUCTION

Commercial contacts between the industrialized nations of Eastern Europe, including the Soviet Union, have developed rapidly. As trade has expanded, the forms of commercial intercourse also have become increasingly varied and complex. While East-West trade in the sixties was characterized primarily by straight buying and selling, East-West trade in the seventies focuses upon economic and industrial cooperation. Prodded by a desire to expand and diversify their national economies, to penetrate new markets, to bridge an ever-widening industrial technology gap with the West, to compensate for their lack of investment capital, and to narrow their trade imbalance with the West, these communist countries have developed new forms of economic cooperation with Western nations, including equity joint ventures.

The approach to economic and industrial cooperation varies from country to country depending on its motivations and particular economic aims. For example, to encourage long-term infusion of Western technology, management and capital, Romania has sanctioned the formation of joint venture enterprises on its national territory. While other communist countries do not permit the full joint ownership and management rights embodied in such joint ventures, they are receptive to other types of economic and industrial cooperation, and in some instances have adopted modified joint venture schemes. Hungary, for instance, has passed a law which permits economic cooperation between Hungarian and foreign firms whereby there is no equity ownership by the foreign investor, but the foreign party is allowed to invest in the joint company, participates in management and shares in company profits. Bulgaria, on the other hand, will not allow Western capital investment on its territory but permits profit sharing from joint cooperation activities. Most recently, Poland passed legislation which opens the door to foreign investment in certain domestic industrial enterprises.

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Because the term joint venture is used so loosely both in the United States and throughout the world, we must establish definitions for it and other basic cooperation concepts in East-West trade. In this text, we shall use the term "joint venture" to refer only to equity joint ventures where the foreign investor obtains actual ownership rights in the joint company. All other forms of non-equity cooperation—some of which have been called joint ventures, such as the Hungarian example given above—will be referred to generally as joint cooperation agreements or, more simply, joint cooperation.

## II. THE ROMANIAN EXAMPLE

In March 1971, Romania enacted Law No. 1 on "Foreign Trade and Economic and Technico-Scientific Cooperation Activities" which provided, in part, for the establishment of equity joint ventures between Romanian and foreign companies, to operate as corporate bodies under the laws of Romania. This law included only brief and very general provisions, and was intended only as a legal framework upon which contractual negotiations between potential partners would be based. Specifically, Law No. 1 provides for direct contact between Romanian companies and enterprises and foreign companies; permits the formation of joint ventures based in Romania; and guarantees the foreign party's contribution to the joint venture as well as the repatriation of convertible currency profits by the foreign investor.

In response to urgings from Western firms for more specific guidelines and detailed legislation concerning the establishment of joint ventures on Romanian soil, the Government issued two decrees in November 1972. They are Decree No. 424 on the "Constitution, Organization and Operation of Joint Companies in Romania" and Decree No. 425 regarding "Tax on Profits of Joint Companies Constituted in Romania." The Romanians have made clear that these are to be the basic laws regarding joint ventures and there are no present plans to elaborate upon them further. Therefore, what is not found in these legislative acts must be negotiated and written into the individual joint venture contracts.<sup>1</sup>

At present, nine Western companies, Control Data Corporation of the United States, Renk Zahnraederfabrik of West Germany, Romalfa of Italy, Dainippon of Japan, L'Electronique Appliquee (now defunct), Citroen of France, Kohmaier of Austria, General Maritime Co. of Libya and the German-Dutch aircraft company VFW-Fokker have established joint ventures in Romania. Several other Western and U.S. companies are currently in the process of negotiating joint venture agreements.

### *A. Company Activity and Forms of Association*

Decree No. 424 stipulates that joint cooperation may take place in a broad range of economic sectors including industry, agriculture, construction, tourism, transport, and scientific and technological research. The Romanian objectives to be achieved through the joint venture's activity are: (1) expansion and modernization of existing

<sup>1</sup> For a comprehensive review of Romanian Joint Companies, see Verzariu, P. and Burgess, J. A., *Joint Venture Agreements in Romania: Background for Implementation*. Bureau of East-West Trade, U.S. Department of Commerce, Washington, D.C., 1977.

industries; (2) introduction of new technologies; (3) improvement of the technical quality of goods and services; (4) promotion and development of research activities; (5) introduction of modern management methods and production techniques, including training of Romanian managerial and technical personnel; and (6) the promotion of exports including the expansion of markets, diversification of export products and development of collaboration activities in third markets.

Romanian officials point out that, in their view, a principal aim of the joint venture is to develop or increase exports to convertible currency markets. A prospective Western investor must recognize this fact from the outset and determine if such exports to convertible currency markets are to his advantage. A potential problem exists here for the investor in that the joint venture's products could possibly compete in third markets with the Western investor's production from existing plants.

While production for export to convertible currency areas is an objective of the Romanian authorities, penetration of Eastern European markets is a common objective of Western investors. Export penetration of COMECON<sup>2</sup> countries, however, creates special problems, particularly with respect to pricing and profits, which should be addressed in the contract of association.

Joint ventures enjoy the same legal status as Romanian corporate bodies and are governed by the laws of Romania and by the individual company statutes and contracts of association under which they organize. These governing documents are further elaborated upon in appendices which are attached to the statutes and which form an integral part of the total agreement.

A joint venture can be either a joint stock company or a limited liability company. The two types of companies, joint stock or limited liability were proposed in Decree No. 424 because they represent common forms of business association in the West.

The Romanians state that there is no preference on their part regarding the form of association the negotiating parties may choose. Both forms have been adopted by foreign investors in existing joint ventures in Romania, the choice reflecting the manner in which the Western firms are structured in their home countries. For example, the joint ventures established with Control Data, Romalfa, Dainippon; and L'Electronique Appliquee are limited liability companies, while those with Renk and Kohmaier are joint stock companies.

The organizational structure of joint stock and limited liability companies is similar. Both companies operate under the directives of a General Assembly of Partners or Shareholders ("General Assembly"). The General Assembly, among other things, establishes the policies of the joint venture; approves its organizational structure and activity schedule; appoints or dismisses its officers; agrees on the collective labor contract; approves, amends or rejects the balance sheet and income statements; and decides whether to raise new capital. Decisions by the General Assembly regarding changes in the social capital, amendments in the joint venture's contract of association and statutes, and mergers or dissolution and liquidation of the venture require approval by the Romanian Council of State.

<sup>2</sup> Council for Mutual Economic Assistance (comprised of Bulgaria, Czechoslovakia, German Democratic Republic, Hungary, Poland, Romania, USSR, Cuba, and Mongolia).

The operations of limited liability joint ventures are directed by the company's Managing Committee in conformity with the decisions and policies set by the General Assembly. On the other hand, the joint stock ventures are responsible to an Administrative Council which also implements the directives of the General Assembly. A Romanian general manager, appointed by the Managing Committee or Administrative Council, runs the daily operations of the joint venture.

It is interesting to note that by virtue of articles which the Romanians propose to include in the statute of a joint stock venture, the liability of that venture is in fact, limited. Thus, the joint venture's property cannot be attached through the personal debts or obligations of the stockholders, and claims by creditors against individual stockholders can be made only on that portion of the company's profit owing to that stockholder or, upon liquidation of the company, on the amount due the stockholder.

### *B. Formation and Organization of the Joint Company*

In order to form a joint venture the parties must first carry out a "study of technical-economic efficiency." Based on the results of this study, the parties draft a memorandum of association expressing their intent to form a joint venture, the economic justification for so doing and the objectives and purpose of the company. This memorandum has no standardized form and, in fact, may consist of a simple exchange of letters indicating an intention to form a joint venture or even a general agreement of economic cooperation, of which a joint venture represents only a part of the envisioned cooperation.

After these two steps have been taken, the parties draw up the contract of association and statutes of the joint venture. The Romanian party next must go through elaborate approval procedures before entering a joint venture. Before execution, the proposed contract and statutes must be reviewed for economic efficiency and approved by the State Planning Committee, the Ministry of Finance, the Ministry of Foreign Trade, the Ministry of Labor, the Bank of Foreign Trade, and other financing banks.

After obtaining the advice and consent of these ministries and state agencies, the parties then must take the four basic documents—feasibility study, memorandum of association, contract of association, and statutes—accompanied by a written request, to the Ministry of Foreign Trade. At this stage the documents are reviewed to insure compliance with domestic Romanian law—the Labor Code, customs laws, currency laws, banking laws, etc.

Once approved and enacted into law, the joint venture must be registered with both the Ministry of Foreign Trade and the Ministry of Finance, the two state organs most concerned with its economic and financial operation. The joint venture formally comes into existence upon registration with the Ministry of Finance and upon the publication of the fact in the *Official Bulletin* of the Socialist Republic of Romania. Any subsequent modification or amendment of either the joint venture's contract of association or statutes must be submitted for approval to the Council of State, after having survived the same lengthy review process described for the initial formation.

It is the contract of association and statutes which are the cornerstones of a joint venture in Romania. Western negotiators must be particularly careful to include in these documents any and all provisions which they deem necessary to the implementation and operations of the joint venture. As with any commercial transaction in Romania, the written word is paramount and nothing should be left to verbal commitments or understandings between the parties.

### *C. Financial and Operational Regulations*

The joint venture's contract of association and statutes list the assets initially contributed to the joint venture, as well as by amendment, those assets which are subsequently acquired. Decree No. 424 notes that capital contributions by the parties may consist of "a financial contribution, a contribution in goods required for carrying out the investment activities in which the company is currently engaged, and a contribution to the industrial property rights or other rights." Furthermore, the Romanian party may include the right to use Romanian land in the joint venture as part of his contribution. If land is not included in the Romanian party's contribution, then the joint venture must pay rent to the state for the use of such land. Various convertible currency prices may be indicated for the property depending on location, value of existing displaced buildings or cultivated areas, and availability of utilities. Such prices reflect an estimated international market value for the real estate. The market value of the site, quoted in convertible currency at "world-market prices," is the result of averaging prices of foreign sites destined for similar utilization in the West. The selection of the sites is usually based on those located in the industrialized Western countries, so that the resulting estimate for the joint venture property is likely to be high.

All cash contributions, as well as contributed goods, are valued in the currency agreed upon in the contract of association and statutes. Since the joint venture must operate in world markets, a foreign convertible currency is used. For purposes of converting lei-valued contributions into convertible currency values, the non-commercial exchange rate of 12.00 lei per U.S. dollar is used as opposed to the commercial exchange rate of 4.97 lei per U.S. dollar used primarily for accounting and foreign trade planning purposes. The value of assets other than cash is determined by using foreign trade prices based on price levels in convertible currency of typical foreign markets.

The Romanian Government guarantees the transfer abroad of both venture profits and contributed capital. Whether capital shares may be transferred to other parties, however, is not clear from Decree No. 424 and, if it is desired, must be established in the contract of association.

All financial transactions of the joint venture, whether in convertible currency or lei, including all transfers of currency, must be conducted through accounts with the Bank of Foreign Trade (or other authorized Romanian banks). Although the joint venture may dispose freely of its accounts, all convertible currency payments by the venture must be drawn from its accounts at the Bank. Interest shall be paid on joint venture funds deposited in Romanian banks. In Decree No. 61 (1974), it was announced that the National Bank and the Bank of Foreign Trade are allowed to pay interest in foreign currency on reserves in

foreign exchange accounts opened by joint ventures. In the event that the joint venture finds it necessary to raise additional capital, then the concurrence of the Bank of Foreign Trade is needed.

Joint ventures are required to prepare both annual and 5-year plans of economic and financial activity, which are subject to the approval procedure outlined in the statutes of the joint venture. Although the precise degree of coordination has not been made clear, Romanian authorities indicate that harmonization with the annual and 5-year national economic plans will be required for government approval.

Decree No. 424 provides general guidelines for accounting procedures, again leaving the precise accounting methods to vary according to the statutes and related appendices of each joint venture. As a result of lengthy negotiations between Control Data and its Romanian partner, the Industrial Central of Electronics and Automatization, two distinct sets of accounting books are being compiled by their joint venture. The joint venture keeps an official set of books, in U.S. dollars, according to American accounting practices. The Romanian party also keeps a separate set of accounting books, in lei, as required by Romanian law. Romanian authorities have indicated that independent auditing of the joint venture's books may be permitted as long as it is agreed to in the contract and statutes and does not preclude in any way the rights of the authorized auditing bodies as established by Romanian law.

Decree No. 424 does provide for the full depreciation of the venture's assets as an expense. The write-off periods are to be established under the statutes or by a general meeting of the parties, but in no case shall these be longer than the "standard operating lifetimes" as stipulated in Romanian law. Romanian practice is to depreciate under the straight line method. The decree also provides that a reserve fund can be created out of the pre-taxed annual profits at a rate not to exceed 5 percent annually until the total reserve comprises 25 percent of the invested capital of the joint venture.

To clarify and eliminate other ambiguities growing from Law No. 1, the Romanian authorities passed, as a companion to Decree No. 424, Decree No. 425 of November 2, 1972, pertaining to the taxation of joint venture profits. The profits tax decree provides for a yearly tax rate of 30 percent, computed on profits before distribution. These profits are based on income less expenses, as determined on the venture's balance sheet, with allowances made for depreciation and the reserve-fund deduction. Furthermore, a 20-percent reduction from the normal 30-percent tax rate is available as a voluntary reinvestment incentive for profits reinvested for at least 5 years in either the joint company itself or other Romanian enterprises. This will result in a 24-percent tax rate for joint ventures following a reinvestment program. In addition to the reinvestment incentives and the reserve fund exclusion, the profits tax decree authorizes the Council of Ministers to grant a full tax exemption through the first year in which the operation generates taxable profits and a one-half tax exemption for the following 2 years.

Regarding the ultimate distribution of profits, Decree No. 425 requires that profits remaining for distribution after deduction of all the above-mentioned items will be subject to an additional 10-percent

withholding tax if transferred abroad. Other costs, in the form of banking charges or fees to handle the conversion of lei into convertible currency, which might further decrease realized profits, should be determined during the negotiation process.

Decree No. 425 also contains administrative procedures regarding profits taxes and provides for registration fees, withholding taxes, and personal income taxes. All taxes are paid through the banking unit which holds the joint venture's account. The appropriate Romanian fiscal departments of the district authority on whose territory the joint venture's registered office is located, as well as the Ministry of Finance, have the authority to order banking units to pay any unpaid taxes, fines, or penalties. The decree also provides that joint ventures must pay an additional one-time tax when they register and file their contract of association and statutes with the Ministries of Foreign Trade and Finance.

Income of joint venture personnel shall be taxed in accordance with Romanian income tax laws in force. Because taxable income in Romania includes both wages and other forms of remuneration, any tax exemption for foreign employees or consultants must be negotiated.

#### *D. Personnel*

Decree No. 424 provides that Romanian personnel are entitled to the same rights and obligations provided in Romanian legislation for personnel employed in the state enterprises. The hiring of Romanian personnel based on individual labor contracts, will be carried out by the general manager and other Romanian members of the Managing Committee or Administrative Councils. Pursuant to Romanian law and Decree No. 424, a joint venture must make a contribution to the Social Insurance Fund—a type of social security including health benefits—for all Romanian employees. The contribution is payable in foreign currency, although benefits obviously will be paid to Romanian employees in lei.

With respect to foreign personnel, Decree No. 424 provides that their rights and obligations will be established by the Administrative Council or the Managing Committee of the joint venture. This provision authorizes foreign personnel to hold managerial positions and permits the transfer of their wages abroad, as provided by the management of the venture.

With respect to salaries, all employees of the venture are paid in the agreed upon convertible currency. Since Romanian law, however, prohibits Romanian citizens from owning convertible currency, except in specially authorized state bank accounts, Decree No. 424 provides that the salaries of Romanian personnel will be computed in the agreed upon convertible currency, but will be paid directly to the bank holding the account of the joint venture, which then will pay the Romanian personnel in lei.

### III. THE HUNGARIAN EXAMPLE

Hungary authorized economic partnership with foreign participation in 1970, by the promulgation of Decree No. 19. This decree was followed by Decree No. 28 in 1972, which contains information on the method of establishing joint cooperation and which provides the financial regulations governing joint cooperation operations.

Compared to the Romanian joint venture law, the Hungarian implementing decree is remarkably brief. The 1972 decree stipulates that the foreign party's share of the joint investment "generally should not exceed 49 percent" and, in this respect, is worded in less stringent terms than its Romanian counterpart. Furthermore, in contrast to Romania where each joint venture is incorporated into Romanian law as a distinct legislative act, operates in a commercial enclave using only convertible currency and allows the foreign investor equity ownership, joint companies in Hungary operate like all other domestic enterprises and are subject to the country's statutory laws. Indeed, the 1972 decree permits only "economic associations" rather than a cooperation based on equity, thus reserving for the Hungarian party the exclusive ownership of the means of production and of capital assets. The return on the foreign party's investment is in a portion of the profits realized by the joint cooperation enterprise, or in the goods produced by the Hungarian party.

In May 1977, the Hungarian Ministry of Finance modified Decree No. 28 by issuing Decree No. 7. The provisions of the new decree allow for joint "production, commercial and service activities," and make it possible for the foreign party, with permission of the Minister of Finance, to become majority shareholder of joint companies engaged in the "financial (banking) and servicing fields."

#### *A. Company Activity and Form of Association*

The forms of association are defined as: share, joint stock, limited liability or joint companies. The form of partnership is optional and is determined in the contract of association.

The scope of activity of these joint cooperation enterprises is to pursue production, commercial and service activities. Under the contract of association, the Hungarian party will generally reserve for itself the rights of production, while the foreign party will likely provide licenses, know-how, special equipment and machinery, components and marketing skills. The Hungarian party may be one or more industrial manufacturers, a foreign trade organization, or Intercooperation Co., Ltd., an enterprise specializing in international collaboration agreements. Since enactment of the 1972 decree, Siemens of West Germany has established a service and marketing joint cooperation with Intercooperation in the field of electronics, capitalized respectively at 49-51 percent. Also Volvo of Sweden has established a joint cooperation with Mogurt Trading Co., and the Csepel Automobile Works for the production by Csepel of 4-wheel drive cars for export purposes only. This joint enterprise acts essentially as a holding and trading company to which Volvo provides (under separate contract) capital (48%), know-how, license and special machinery, while Csepel-Mogurt each provide 26 percent covering production facilities, labor and capital.

In 1975, the first American-Hungarian joint cooperation enterprise was established between Corning Glass; Radelkis, a leading Hungarian electro-chemical instrument manufacturer; and Metrimplex, a Hungarian foreign trade organization specializing in instruments. The new company, Radelcor Instruments, Ltd., is manufacturing blood-gas analyzers under the Corning trademark. Corning owns 49 percent of the new company and is responsible for marketing the instruments in the West.

The Hungarians have considered the formation of other joint cooperation enterprises organized as holding companies. One alternative would have each party retain only a portion of the earned profits, with the difference going to its holding company, thereby creating an incentive for the parties to maximize their income by keeping operation and/or production costs to a minimum. A second alternative would have the holding company buy goods from one party to sell them to the other at agreed upon prices, fixed so as to encourage both parties to keep in-house costs to a minimum.

### *B. Formation and Organization of the Joint Company*

Since a joint cooperation enterprise in Hungary operates like any other domestic enterprise, the Hungarian party must first obtain all permits which apply to regular Hungarian companies. If foreign trade operations are involved, the approval of the Ministry of Foreign Trade, the Bank of Foreign Trade and the National Bank are necessary. In addition, as many as four separate contracts must be signed and submitted for approval to the Minister of Finance. These include the "articles of association" document which provides information necessary for the enterprise's registration; the association contract which defines the rights and obligations of parties; the production contract between the joint enterprise and the Hungarian manufacturer; and the marketing contract which outlines the marketing responsibilities of the parties.

### *C. Financial and Operational Regulations*

According to the 1972 decree, the share of the foreign party "generally should not exceed 49 percent." Since the decree does not strictly limit the foreign party to minority ownership of the shares, it leaves open the possibility that, depending on the value assigned to its contribution, the foreign party might be permitted to control a majority of the joint enterprise's shares without actually owning fixed assets or using domestic means of production. Furthermore, the recent modifications introduced by Decree No. 7 of May 1977, specifically permit foreign majority control of the joint company's shares, subject to approval by the Minister of Finance, for companies in the banking and service fields. The value of the Hungarian contribution is calculated in "forints" at world market prices. The pricing criteria are open to negotiations and are similar to those discussed previously for Romania.

When amortizing fixed assets, Hungarian practice is to depreciate under the straight-line method, according to standard operating lifetimes established by law for individual assets. In the case of the joint cooperation between Siemens and Intercooperation, accelerated amortization was negotiated because the technical equipment involved undergoes rapid depreciation.

The Hungarian National Bank is responsible for all foreign currency operations of the joint cooperation enterprise (e.g., transfer of wages or profit shares abroad). The National Bank, if petitioned at the time of the submission of the joint cooperation enterprise's contract, will guarantee both the foreign party's assets against state actions and the foreign investor's obligations to the Hungarian party. This provision

offers the foreign investor a guarantee against nationalization of the enterprise.

Normally, a joint cooperation enterprise operating in Hungary is not permitted to raise convertible currency funds in foreign markets by itself. If the equity capital of the company warrants it, the National Bank could approve a loan out of its own funds; otherwise the Bank could allow the parties, if advantageous to the undertaking, to raise the capital on their own. Since a joint cooperation enterprise, like any other Hungarian foreign trade enterprise, is an independent legal entity, the state or other state organizations could not be held legally liable for its actions.

The National Bank provides foreign exchange required for Hungarian imports and is the recipient of all convertible funds derived from export sales. Accounts of joint cooperation enterprises and Hungarian companies which trade in Western markets are credited or debited by the Bank in forints at the "foreign trade multiplier" rate (43.2 forints=\$1.00), which amounts to about twice the tourist rate of exchange, and is intended to stimulate Hungarian exports and decrease imports from countries with convertible currencies.

Another important role of the National Bank is to sit in an advisory capacity on the board of the Interministerial Committee on Cooperation, which functions under the Ministry of Foreign Trade. Also represented on the committee are the National Planning Office, the National Committee for Technological Development, the Ministry of Metallurgy and Machine Industry and the Ministry of Finance. The committee is chaired by the Secretary of State for Foreign Trade, and is charged with responsibility to direct, advise and exercise control over all cooperation programs between Hungarian and foreign firms, except joint cooperation enterprises organized abroad.

Accounting procedures of the existing joint cooperation enterprises in Hungary follow local accounting practices. The 1972 decree stipulates that the joint cooperation enterprise is required to set up a risk fund against losses. The fund is accumulated yearly until it amounts to 10 percent of the capitalization funds. As an incentive to its employees, the company can disburse bonuses out of a profit-sharing fund, not to exceed 15 percent of the sum of the annual wages. The profit-sharing fund is established by the enterprise from its annual profits after deduction of the risk fund. The outstanding profit remaining after allocations into these funds is subject to a profit tax.

According to Decree No. 7, the profits of the joint cooperation enterprise are taxed at a 40-percent rate. No other profit taxes are imposed. The Minister of Finance may, at his discretion and upon special application, allow a lower tax duty. In implementing the articles of the decree, the word of the Ministry of Finance is decisive. American companies cannot at present benefit from an agreement on prevention of double taxation since no such treaty has been negotiated or is envisioned in the near future.

Decree No. 7 sets the wage and social insurance tax of personnel working for joint cooperation enterprises in Hungary at a flat rate of 35 percent. This 35 percent wage contribution as in line with payroll taxes of Hungarian enterprises which include a social security contribution which amounts to 17 percent of monthly wages, an 8 percent payroll tax, a 6 percent communal tax and a 1.5 percent commercial tax.

Joint cooperation enterprises in Hungary are exempt from tax on fixed assets and from accumulating a depreciation reserve fund. The exemptions reflect the intent of the 1972 decree not to entitle joint cooperation enterprises to ownership of fixed assets or the use of domestic means of production. If the joint cooperation enterprise sells directly on the Hungarian market, it will be charged a turnover tax. A foreign trade tax at a level individually fixed by the Hungarian Minister of Finance is levied on joint cooperation enterprises active in foreign trade. Settlement of foreign exchange accounts and raising of credits follow the procedures established for Hungarian enterprises.

#### *D. Personnel*

The Workers' Trade Union has a voice in hiring or firing local employees and is responsible for negotiating collective bargaining agreements on behalf of the joint cooperation enterprises' indigenous personnel. The 1972 decree stipulates that employee wages are established by the contract of association or the work contract. Hungarian employees of joint cooperation enterprises are usually paid at levels of existing wages for similar types of jobs in the country. In the case of Volcom-Hungary Ktf., the Volvo joint enterprise, each party fixed the salary levels of its nationals.

Foreign employees of the joint cooperation enterprise are allowed to transfer 50 percent of their income abroad in the currency established in the contract of association, after deduction of local taxes, paid in forints. The income tax deductions of foreign personnel are regulated by Decrees 35 and 36 of 1971 and by the Minister of Finance. Foreign incomes of foreign nationals are exempt from tax in Hungary.

#### IV. OTHER EXAMPLES

Confronted with the same desire for Western capital, technology, management and marketing know-how as the Romanians or Hungarians, Bulgaria and Poland have also passed similar legislation. While the Romanian joint venture law represents a bold attempt to encourage direct infusion of Western investment based on the anticipated desire of foreign investors to preserve ownership of their contributed assets, the Bulgarian and Polish laws reflect a more limited and cautious approach.

In June 1974, Bulgaria issued Decree 1196 on "Economic, Production and Technical Cooperation with Foreign Juridical Entities and Individuals," allowing Western participation in joint cooperation enterprises in that country in return for a share of the jointly realized profits, proportional to the contribution of the parties. More recently, in May 1976, Poland promulgated a decree on the issuance of "Licenses to Foreign Legal and Physical Persons for the Conduct of Certain Types of Economic Activity" within that country. Because the Bulgarian and Polish laws are so recent, there is very little practical experience on which to draw in searching for problems in implementing joint cooperation in these countries. For example, as yet, no U.S. firm has established joint companies in Bulgaria or Poland.

### *A. The Bulgarian Example*

Decree 1196 was followed in August 1975 by the issuance of implementing regulations for cooperation activities. The legislation officially encourages and defines the scope of cooperation projects with foreign firms. However, unlike Romania and Hungary, it does not permit Western capital investment on Bulgarian territory.

In exchange for its involvement, the foreign investor is eligible to receive part of the profits realized from the cooperation, in accordance with his concrete contribution. The pertinent conditions are spelled out in the contract of cooperation. Joint economic activities in Bulgaria are subject to Bulgarian legislation, while those carried out in third countries are subject to conditions as determined in the contract between the parties. The Bulgarian party, while benefiting from the foreign party's contributions, still operates like any other domestic enterprise and is subject to all local Bulgarian regulations and taxations.

#### 1. COMPANY ACTIVITY AND FORM OF ASSOCIATION

Economic, industrial and technical cooperation between Bulgarian economic organizations and foreign parties may involve activities in the fields of industry, construction, agriculture, transport, tourism, trade, credit, etc. This cooperation may assume different forms, such as joint efforts for implementing new production capacity or for reconstructing and modernizing existing ones; joint research and development; joint production and marketing of goods; organizing joint enterprises outside Bulgaria for production or other economic activities.

#### 2. FORMATION AND ORGANIZATION OF THE JOINT COMPANY

Cooperation agreements between Bulgarian economic enterprises and a foreign party require approval by the Council of Ministers or other competent organs as determined by the Council. The request for a permit to implement a long-term cooperation is to be accompanied by a draft agreement and an economic analysis of the proposed joint project, clarifying the objectives of cooperation, responsibilities of the parties, the sourcing of funds, the technical level and quality of production, as well as the marketing plans.

The pertinent conditions for the joint cooperation are spelled out in the contract between the parties. In all cases, however, one or more of the following conditions must exist:

Rapid introduction into production of modern, cost effective technologies or new products which could fulfill local or export market requirements.

Construction of new production capacity, or reconstruction and modernization of existing ones.

Effective utilization of presently available raw materials and development of new local and prime material sources.

#### 3. FINANCIAL AND OPERATIONAL REGULATIONS

The implementing regulations define realized profits as "realized economic effect." Remuneration to the Western party (in the form of

profits, royalties, services and/or goods) will accrue in proportion to its "concrete contribution", which could consist of licenses, know-how, or capital equipment.

The State Planning Committee and the competent industrial ministry will provide financial support and material supplies for cooperation projects. The Bulgarian National Bank and the Bulgarian Foreign Trade Bank may also grant credits on favorable conditions, if petitioned by the Bulgarian party to the joint cooperation.

The foreign investor may supply the Bulgarian enterprise with funds, materials, machinery and equipment imported into Bulgaria on a temporary basis and duty-free. At the termination of the agreement, these items can be repatriated or in the case of capital goods, purchased by the Bulgarian party at residual value. The appraisal of the contributions by the parties to the joint cooperation is to be valued on the basis of international market prices unless otherwise agreed upon in the contract.

#### 4. PERSONNEL

Foreign personnel may be permanently stationed with Bulgarian enterprises to improve labor productivity, introduce new technologies, assist with quality control and marketing of goods abroad. As such, the management role of the foreign personnel appears limited to technical and advisory functions.

The legal and social status of foreign specialists residing in Bulgaria is governed by and specified in the contract between the cooperating parties. Western citizens have the right to transfer abroad through the Bulgarian Foreign Trade Bank up to 50 percent of their salary received from the Bulgarian enterprise.

#### *B. The Polish Example*<sup>3</sup>

The procedures and conditions for the authorization of foreign physical and legal persons to conduct economic activity in Poland are regulated by the Decree of the Council of Ministers of May 14, 1976, concerning the issuance of "Licenses to Foreign Legal and Physical Persons for the Conduct of Certain Types of Economic Activity."

In accordance with this decree, firms having their headquarters abroad, physical persons permanently residing abroad or physical persons with foreign citizenship who have been granted permanent resident status in Poland, and Polish ethnic associations and social organizations with headquarters abroad, can establish and operate artisan, trade, gastronomic and service enterprises in Poland on the basis of a license issued by the appropriate provincial authorities.

The above decree was supplemented on May 26, 1976 by additional legislation of the Minister of Finance. Order 109, issued on that day, concerns permission for foreign investors to open bank accounts in Poland and Order 110 concerns permission for joint enterprises to conduct commercial transactions in convertible currencies.

<sup>3</sup> Part of this material has been extracted from unpublished notes by S. Lotarski, Polish Desk, Bureau of East-West Trade, U.S. Department of Commerce.

The intent of these legislations appears aimed at extending investment possibilities to small or medium sized foreign firms or investors, and to infuse capital and expertise into certain domestic service sectors which traditionally have been short of both. Polish officials point out that the 1976 legislation supplements existing pre-war legislation governing foreign investment in Poland. The pre-war legislation in question are the decrees of the Council of Ministers of 20 December 1928 and 28 March 1934 concerning the conditions for the activity of foreign joint stock and limited liability companies, respectively, in Poland. Furthermore, the Poles indicate that future amendments to the new legislation are possible, provided they will be needed to facilitate foreign investment.

### 1. COMPANY ACTIVITY AND FORM OF ASSOCIATION

Polish regulations provide explicitly for wholly-foreign-owned enterprises in specified sectors (artisan, trade, gastronomic, and service), and leave open the possibility for joint cooperation enterprises with Polish commercial organizations in these and other activities.

According to Polish officials, the 1976 legislation does not necessarily exclude joint cooperation in some confined industrial production endeavors (e.g., in the manufacture of component parts, in apparel manufacturing, in commissioning new production lines in existing factories), as long as the production output is limited and official permission is granted.

### 2. FORMATION AND ORGANIZATION OF THE COMPANY

Permission for foreign investors to conduct economic activities in Poland is granted through a license by the authorities of the province where the new enterprise is established. Licenses can be issued with a validity of up to 10 years, with the possibility of renewal.

Foreigners should appoint a proxy to attend to the formalities relating to the licensing and, later, the management of the enterprise. The proxy should be either a Polish citizen permanently residing in Poland or a foreign citizen who has permission for permanent residence in Poland. The proxy also can be assigned by the Polimar Foreign Trade Enterprise, 20 Marchlewskiego Street, 00-950 Warsaw.

Receipt of a license to operate an enterprise is conditioned upon the presentation of:

- A description and a cost estimate of the investment;
- A guarantee that the full cost of the investment will be covered in convertible currencies; and

- A receipt showing that 30 percent of the cost estimate has been deposited by the applicant in the Bank PKO, S.A., in convertible currencies.

In especially justified cases the license-issuing authority can lower the sum of the obligatory deposit.

### 3. FINANCIAL AND OPERATIONAL REGULATIONS

Financial questions relating to investment and economic activity of foreign physical and legal persons in Poland are regulated by the

Orders of the Minister of Finance of May 26, 1976, published in the *Monitor Polski*—the Official Daily of the Polish People's Republic—No. 25 of June 14, 1976:

Order 109, concerning permission for foreigners holding hard-currency and carrying out economic activity in Poland to open and maintain bank accounts; and

Order 110, concerning permission for mixed-capital partnerships to conduct certain transactions in convertible currencies.

Order 109 concerns the establishment and operation by foreigners of enterprises of an individual ownership character. Investment and operation costs related to the establishment of the enterprise are sourced from a convertible currency account and a separate Polish zlotys account that the foreign investor opens in his own name at the Bank PKO, S.A. Disbursements from the former account are to cover imports of machinery, equipment, materials, and all payments due Polish enterprises which have the right to render their services for convertible currency. Local operational expenses and receipts related to the sale of goods and services transacted in zlotys are to be channeled through the latter account.

Bank PKO has been authorized to exchange in convertible currency and disburse from the zlotys account, on behalf of the owner of the enterprise, a part of the yearly taxed (net) income resulting from the economic activities of the enterprise. The regulations permit the payment in convertible currency of up to 50 percent of the net income annually, however, in a sum not to exceed 9 percent of the value of the capital invested in convertible currencies. The 9-percent limitation will not be applied to enterprises which receive at least 50 percent of their annual turnover from the documented export of goods or services for convertible currencies.

Order 110 of the Minister of Finance concerns joint cooperation enterprises with the participation of Polish and foreign capital which are established for the purpose of carrying out economic activity in Poland.

The foreign investor's share in a joint cooperation enterprise is contributed in zlotys obtained through the exchange of convertible currency in Polish banks. A part of the foreign investor's share can be contributed in a documented, non-monetary form (e.g., machines and equipment). The value of the Polish contribution is calculated in zlotys at world market prices. Profit repatriation of up to 50 percent of the net income for the fiscal year, as well as capital repatriation from the sale of the enterprise is allowed after tax obligations have been fulfilled.

Joint cooperation enterprises can open bank accounts either in the Bank Handlowy, S.A. or in the Bank PKO, S.A. These banks have been authorized to pay out in convertible currencies to the foreign investors the proceeds due them from their participation in the profits of the enterprise. These payments can be made after presentation to the appropriate bank of certification issued by the joint cooperation enterprise, according to the appropriate form established by the bank, and also of receipts for the payment of income tax for the tax year, which are issued by the local administrative organs. Payment in convertible currencies of proceeds due from participation in the profits of a joint cooperation enterprise will be made annually up to a

maximum of 9 percent of the value of the investment contributed by the foreign investor. This limitation does not apply to those joint cooperation enterprises which secure at least 50 percent of their turnover through the documented export of goods or services for convertible currency.

A minimum of 20 percent of the net profit of an enterprise (that is, after deduction of the income tax due from the partnership) ought to be allocated for the reserve fund of the enterprise while the remaining net profit can be allocated for division among the investors.

For purposes of exchanging convertible currencies for zlotys or zlotys for convertible currencies, the banks will apply the special rate established in the exchange rate table of the Polish National Bank plus the premium applicable with the exchange of convertible currencies for foreign tourists; the actual special rate of exchange together with the tourist premium gives an exchange rate of 33.20 zlotys for one U.S. dollar.

Income tax is due on income. Taxable income is calculated by deducting costs from gross revenues (turnover). Income is established either on the basis of accounting records or is estimated as a percentage of turnover using the appropriate rate for a given activity. In establishing the income, depreciation allowances on capital equipment and property are taken into account. The income tax rate for foreign persons is lower than that for persons permanently resident in Poland.

Income tax on foreign persons is based on a progressive rate, with a ceiling of 50 percent of income. Furthermore such persons are exempted from the additional equalization tax. If foreign persons are participants in an incorporated partnership and receive dividends as a result of their participation, income tax of 30 percent is applied to the dividends.

#### 4. PERSONNEL

Polish personnel hired by a joint enterprise are entitled to the same rights and obligations provided in local legislation for personnel employed in state enterprises. Salaries of these personnel are set accordingly, but the company can accumulate funds from taxed profits to distribute as bonuses to its employees.

Foreign citizens may be given permission to reside in Poland to operate commercial enterprises in which they have an investment. The legal and social status of such foreign personnel is specified in the contract between the cooperating parties. Foreign permanent residents of Poland have the right to transfer into convertible currency a part of their profits for a period of 10 years from the date of receiving residence permission. Furthermore, such persons benefit from special income tax reductions for a period of 10 years.

Poland has entered into treaties for the avoidance of double taxation with many countries and specifically with the United States of America, with the German Federal Republic, Austria, and Pakistan. Treaties have been signed but have not yet entered into force with France, Sweden, and Denmark, and negotiation on such treaties have been undertaken with Belgium, Great Britain, Finland, and Norway. These treaties regulate the tax obligation of persons whose residence is in one country and who are conducting economic activities or earning income in the second country.

Those persons residing in any country with which such a treaty has been concluded, upon establishing an enterprise in Poland, will be taxed in Poland on the income from such enterprise, while in the country of their residence such income will not be taxed.

If foreign citizens move permanently to Poland and receive permission for permanent residence but continue to earn income in the country of their former residence of which they are citizens and which income will be taxable in that country, such income will be exempted in Poland from taxation.

#### CONCLUSIONS

In espousing the principles of international economic and industrial cooperation, the East European nations are adopting a capitalistic tradition which is rooted in the historical drive of Western economies to expand their markets. Yet, the basic prerequisite for a successful transnational cooperation effort, i.e., the profit-oriented free flow of capital and goods, is limited in this instance by two factors, namely: the nonconvertibility of COMECON currencies and the centrally programmed development of the markets in these countries. The former limits the desirability to earn profits in local currencies, and the latter restricts these markets to specific categories of goods, mostly of the nonconsumer type.

Also detrimental to the balanced flow of goods to all markets is the East European emphasis on exporting the products of joint cooperation activities to convertible currency markets, which is not usually balanced by a capability to foster export expansion to the COMECON countries. This may conflict with the foreign investor's interests which are generally aimed at establishing new production capacity to serve the local or other COMECON markets.

Finally, an additional dampening factor on the implementation of joint cooperation is provided by the different economic aims inherent in the systems of the cooperating parties. In the centrally planned economies of East Europe, where foreign trade is a state monopoly and where domestic capital and assets are tools of social ownership, production and export policies are tied to specifically programmed aims, while profit considerations, although important, are considered secondary to the attainment of development goals of the domestic economy. It follows that joint cooperation activities between West and East European economic entities are necessarily influenced and limited by the aims inherent to the host country. The disappointing moderate response of Western firms to the opportunity of investing in the centrally planned economies reflects this diversity of aims.

To foster Western interest, additional inducements will have to be provided by the East European Governments, especially because the recent worldwide economic slowdown has compelled Western firms to adopt tight policies of capital investment. The Eastern Europeans could consider giving the ventures new tax rebates, easing the controls and red-tape encountered in the formation of joint ventures, stressing import substitution projects rather than export promotion ones, and easing the emphasis to export the joint ventures products principally to convertible currency rather than COMECON markets.

Other inducements could be the integration of the production from joint cooperation projects into the host country's convertible currency international bilateral trade agreements, and the establishment of "free

trade" zones within the East European countries borders, along the lines of those existing in the United States or in other countries involved in international trade.<sup>4</sup>

Of course, inducements will not be sufficient if they do not result in substantial profit opportunities for Western investors. If the East European Governments want to obtain the infusion of foreign technology, management, marketing expertise and capital and, by virtue of the long-term relationship of a joint company, to assure that such technology is kept current and responsive to world market demands, they must be prepared to pay for these benefits. The present East European attitude, which considers joint cooperation projects as investments which are self-liquidating through convertible currency export promotion, will have to give way to a more realistic one which may require securing the necessary convertible currency to subsidize the operations of those joint projects which will most benefit the host countries' economies. In the meantime, the joint cooperation approach will appeal mostly to foreign firms that are planning plant capacity expansion and decide on the Eastern European locale as a manufacturing site to supply their markets in the West, or to firms engaged in the manufacture of goods that fulfill the Eastern European country's market needs and which would otherwise have to be imported from the West.

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<sup>4</sup> According to Romania's Law No. 1, such "free trade" zone may be established on Romanian soil.

# AN ANALYSIS OF THE UNITED STATES-ROMANIAN LONG-TERM AGREEMENT ON ECONOMIC, INDUSTRIAL, AND TECHNICAL COOPERATION

BY JAY A. BURGESS

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### I. BACKGROUND

On November 21, 1976, in Bucharest, U.S. Secretary of Commerce Elliot L. Richardson and Romanian Deputy Prime Minister Ion Patan signed the Long-Term Agreement on Economic, Industrial and Technical Cooperation between the United States of America and the Socialist Republic of Romania ("Long Term Agreement"—See Appendix). The signing marked the end of approximately 14 months of negotiations between the two countries and culminated a period of some four years during which the need for such an agreement had been discussed by the two sides.

Romanian interest in negotiating a long-term cooperation agreement with the United States dates back to the early seventies. In the wake of President Richard Nixon's dramatic visit to Bucharest in August of 1969, the Government of Romania began stressing the importance of normalizing economic and commercial relations between the two countries, and particularly hoped to obtain nondiscriminatory tariff treatment. Romanian officials first suggested negotiating a long-term cooperation agreement to U.S. Government officials during preparations for Romanian President Nicolae Ceausescu's December 1973 visit to the United States. While a number of factors prevented such negotiations at that time, Presidents Nixon and Ceausescu did issue on December 5, 1973, a Joint Statement on Economic, Industrial and Technological Cooperation between the United States of America and the Socialist Republic of Romania ("Joint Statement").<sup>1</sup> This statement established a set of guidelines for the development of economic relations between the two countries which included the facilitation of "cooperation" activities between firms, companies and economic organizations of the two countries in areas of particular interest and the statement that transactions would be effected on a contractual basis.

<sup>1</sup> For full text of the Joint Statement see *American-Romanian Economic Accords, 1973-1974*, U.S. Department of Commerce, March 1975, at page 1.

The subject next came up during the visit of U.S. Secretary State Henry Kissinger to Bucharest in November 1974. He and President Ceausescu agreed that the two countries would negotiate a long-term economic cooperation agreement following negotiation and approval of the U.S.-Romanian Trade Agreement ("Trade Agreement").<sup>2</sup>

In August of 1975, President Gerald Ford visited Romania and together with President Ceausescu signed the documents bringing the Trade Agreement into force. The two Presidents also issued a joint communique which stated that the two countries would begin negotiating a long-term cooperation agreement as soon as possible. Between September and November of that year the two sides exchanged drafts, and at the Second Session of the Joint American-Romanian Economic Commission, held in Washington on November 3-4, 1975, the two sides agreed that direct negotiation of the long-term agreement should begin in January, 1976 (either in Washington or in Bucharest) with the aim of concluding the agreement as soon as possible.<sup>3</sup>

However, further drafts and revisions of the agreement continued to be exchanged through normal diplomatic channels in December, January and later in March and April. It was not until May of 1976 that a small U.S. negotiating team made up of officials from the Departments of State and Commerce journeyed to Bucharest for face-to-face negotiations with the Romanians. Those negotiations lasted three weeks and resulted in agreement on all but a few provisions. The remaining outstanding issues were then resolved in meetings in Bucharest between U.S. Embassy officers and Romanian officials in time for signing during Commerce Secretary Richardson's trip to Romania in November, 1976.

## II. DEFINING COOPERATION AND ITS PLACE IN THE ROMANIAN FOREIGN TRADE SYSTEM

There is no set definition of a cooperation activity and Romanian officials themselves have been known to offer differing views on what constitutes cooperation. A veteran Romanian official from the Department of International Economic Cooperation in the Ministry of Foreign Trade and International Economic Cooperation has written extensively on the subject and has attempted to identify certain characteristics found in cooperation activities. He distinguishes cooperation from traditional economic and commercial exchanges (i.e., the buying or selling of goods and services) by noting that it may involve the transfer of technology and know-how, supply of machinery and equipment, arrangement of financing, product marketing, technical assistance, research and development, etc.—or any combination thereof. He further outlines the more important objectives of cooperation activities as ventures which—

Are to be jointly carried out, during a long period of time, and to be continual;

Contribute to the division of labour, by two or more partners' participation in the production of a product or in performing productive activities;

<sup>2</sup> Officially titled the "Agreement on Trade Relations Between the United States of America and the Socialist Republic of Romania." Signed at Bucharest, April 2, 1975 and entered into force August 3, 1975. For text of the agreement see 26 UST 2305 or TIAS 8159.

<sup>3</sup> See paragraph No. 11 of the Agreed Minutes of the Second Session of the Joint American-Romanian Economic Commission (hereinafter "Agreed Minutes—Second Session"), November 4, 1975.

- Stimulate the joint development of new technological procedures or of improvement of the existing ones;
- Improve the technical level of one of the partners;
- Promote the use of the most advanced technologies;
- Lead to the reduction of production and merchandizing costs;
- Lead to a better production and enterprise organizations; and
- Contribute to the training of specialists for production, enterprise management and organization, merchandizing of goods and market research.<sup>4</sup>

As suggested by this list, cooperation usually involves more than one type of transaction (e.g., a co-production scheme involving a licensing arrangement and defined marketing responsibilities) and very often includes some form of compensation in products to the overseas partner.

Cooperation activities have come to have some significance in Romania's foreign trade system. Driven by a strong desire to expand both her economic and political relations with the West and to industrialize rapidly in the sixties, Romania increased dramatically her foreign trade with the countries of Western Europe. In the seventies these increases extended to the United States and Japan. As her appetite for Western products and technology grew larger, hard-currency imports from the West began running well ahead of Romanian hard-currency exports and the country's hard-currency reserves were depleted. While Romania dealt with this problem in the seventies in a number of different ways, such as by seeking favorable long-term credit arrangements and curtailing low-priority Western imports, cooperation activities represented a very hopeful vehicle for helping Romania correct its hard-currency imbalance in the longer run.

In order to facilitate the establishment of cooperation projects with foreign firms the Government of Romania took a series of legal and administrative steps in the early seventies. Most important was the passage of the Law on Foreign Trade and Economic and Technico-Scientific Cooperation Activities in the Socialist Republic of Romania (Law No. 1) on March 17, 1971.<sup>5</sup> This law detailed the institutional framework and operational structure of Romania's foreign trade system for the seventies, placing special emphasis on cooperation activities and opening the door to direct foreign investment (i.e., equity joint ventures) in Romania. The Ministry of Foreign Trade was even reorganized and given a new name—the Ministry of Foreign Trade and International Economic Cooperation.

During the seventies the Romanian Government made successful efforts to sign cooperation agreements with a large number of developed and less developed Western countries. Agreements with the Federal Republic of Germany, France, the United Kingdom, the Netherlands, and Austria, for example, are very similar in that they are for a 10-year period, identify areas of particular interest for economic and industrial cooperation projects between firms of the two countries, define types of cooperation projects to be carried out (e.g., joint ventures, co-production and product specialization, licensing arrangements, etc.) and stress the importance of obtaining appropriate financing for such cooperation.

<sup>4</sup> "Romania's Economic and Technical Cooperation with West-European Countries"—paper delivered at the International Institute for the Management of Technology—Milan, 1974 by Gigel Cristea, Director, Ministry of Foreign Trade and International Economic Cooperation.

<sup>5</sup> Official Bulletin of the Socialist Republic of Romania, No. 33 (March 17, 1971). In translation, see 11 *International Legal Materials*, No. 1 (January 1972) at p. 161.

### III. ROMANIAN AND U.S. MOTIVATIONS REGARDING COOPERATION

While a long-term cooperation agreement with the U.S. Government has been longer in coming, the Romanian Government has actively and energetically pursued the topic of cooperation with American firms in a number of different forms over the past several years. Recent meetings of the Joint American-Romanian Economic Commission endorsed the development of economic cooperation between the two countries including the establishment of equity joint ventures.<sup>6</sup> Specific areas of interest to the Romanian side for establishing cooperation projects have also been identified at the Joint Economic Commission sessions.<sup>7</sup> The Romanians have used the Joint Economic Commission vehicle to seek U.S. Government support for the concept of joint U.S.-Romanian cooperation projects in third markets.<sup>8</sup> Actual results have been meager, but one of the eight equity joint ventures in Romania is with an American firm,<sup>9</sup> and various other U.S. companies are actively involved in cooperation projects with the Romanians. That Romania is stressing cooperation projects with U.S. firms is clear. Romanian authorities have commented that they expect to negotiate 83 projects during the current Five Year Plan (1976-1980), of which 22 may involve U.S. firms.

The Romanian Government is inclined to believe that its economic interest in cooperation can be promoted through formal agreements with other governments. In Romania's own highly bureaucratized economy, this is true: a document such as an international agreement, approved at the highest levels, can legitimize and justify actions by officials at lower levels.

The United States Government, accustomed to permitting its firms to undertake projects in foreign countries on their own, has been generally unconcerned about the need for an intergovernmental agreement or even for a precise definition of cooperation.<sup>10</sup> However, in the case of Romania, the U.S. hoped to maintain the active development of U.S.-Romanian economic and commercial relations and to strengthen the basis on which firms might negotiate new contracts. U.S. officials felt that U.S. firms would be more willing to enter into longer-term contractual relations with Romanian enterprises if the U.S. could obtain an international commitment by Romania to protect their commercial interests in joint projects. Such formal assurances would also provide the U.S. Government with a stronger basis for defending U.S. firms against possible adverse action by the Romanian Government in the future.

### IV. TEXT OF THE LONG-TERM AGREEMENT

The Long-Term Agreement itself can be characterized as a statement of good intentions which provides a framework for cooperation

<sup>6</sup> See note (3) *supra* and see paragraphs No. 9 and No. 11 of the Agreed Minutes of the Third Session of Joint American-Romanian Economic Commission (hereinafter "Agreed Minutes—Third Session"), November 23, 1976.

<sup>7</sup> See paragraph No. 13, Agreed Minutes—Second Session and paragraph No. 11, Agreed Minutes—Third Session.

<sup>8</sup> See paragraph No. 18, Agreed Minutes—Second Session and paragraph No. 12 in Agreed Minutes—Third Session.

<sup>9</sup> The U.S. partner is Control Data Corporation of Minneapolis, Minnesota. The joint venture, named ROM CONTROL DATA makes computer peripherals and has its plant located in Bucharest.

<sup>10</sup> Prior to November 21, 1976, the U.S. had a long term agreement on "Economic, Industrial and Technical Cooperation" with only one other centrally planned economy country—the Soviet Union. Signed at Moscow, June 29, 1974 and entered into force June 29, 1974. For text of the agreement see 25 UST 1782 or TIAS 7910.

between firms and economic organizations of the two countries, and reaffirms both countries' support for the expansion of their bilateral economic and commercial relations. It provides a sound basis for long-term contractual relations between firms and economic organizations of the two countries on terms familiar to U.S. companies.

The Preamble to the Long-Term Agreement contains several interesting provisions. It notes that the two countries are "taking into account the characteristics and economic potential of the two countries" as well as "their respective levels of economic development." This provision alludes to Romania's status as a developing country, which was recognized in both the Joint Statement of December 5, 1973, and the Trade Agreement.<sup>11</sup> U.S. recognition opened the way for Romania to receive the U.S. Generalized System of Preferences (GSP) when it was inaugurated on January 1, 1976.<sup>12</sup> Since the Long-Term Agreement is for 10 years and since during that period Romania hopes to evolve into a developed country, the language of this provision is couched in terms of "levels of economic development" rather than specifically referring to Romania's current developing country status.

The Preamble also notes that in reaching this agreement the two countries have taken into consideration the provisions of the Trade Agreement. The Long-Term Agreement is intended to supplement, and not to replace, the Trade Agreement by which MFN tariff treatment was extended to Romania. Thus, any cooperation activities which resulted in normal commercial activities, such as exports to the U.S. or the establishment of representative offices, could be affected by both agreements.

Most importantly, the Preamble makes reference to the fact that both parties are "determined to promote in their relations the objectives of the Final Act of the Conference on Security and Cooperation in Europe ("Final Act")<sup>13</sup> and to give full effect to all of its provisions, including those relating to economic, scientific and technological cooperation ("Basket II")." Basket II of the Final Act contains important sections related to business contacts and facilities, industrial cooperation, arbitration and the possibilities for improving cooperation and these and other Basket II provisions were drawn on extensively by both parties in drafting and negotiating this agreement. Thus, several provisions of the Final Act have been given the character of a bilateral commitment in the Long-Term Agreement.

Article I contains assurances by both sides against expropriation and other unreasonable measures that would impair contractual or other legally acquired rights of firms. The language in the provision on expropriation is exactly the same as that found in the Joint Statement of December 5, 1973. These concepts of protection for firms from the arbitrary actions of the State are fundamental to U.S. law and were included in the Agreement to give a measure of reassurance—including the possibility of diplomatic support—to U.S. firms considering long-term contractual relations with Romanian enterprises. Given the Romanian Government's public identification with many communist

<sup>11</sup> See Article I, paragraph No. of the Trade Agreement.

<sup>12</sup> See Title V (Generalized System of Preferences), Sections 501 and 502 of the Trade Act of 1974, 19 USC 2101.

<sup>13</sup> See "Conference on Security and Cooperation in Europe—Final Act," Office of Media Services, Bureau of Public Affairs, U.S. Department of State (Publication No. 8826), August 1975.

and Third World ideological positions, often considered hostile to private enterprise, its acceptance of provisions for protecting firms in this Long-Term Agreement is a measure of its interest in establishing a basis for mutual, long-term trust in its relations with Western companies.

This article also emphasizes appropriate steps to facilitate cooperation between their firms, companies and economic organizations "including those of small and medium size." This specific reference was used to indicate to the smaller U.S. firms, which do not have, in most instances, the resources or East-West trading experience of some of the larger firms, that opportunities exist for them in cooperation efforts with Romania. It also reflects language found in Basket II of the Final Act encouraging greater participation by small and medium size firms in commercial and economic relations between states which participated in the Conference on Security and Cooperation in Europe. Similarly, firms, companies and economic organizations of both sides are assured in this article that the two parties will seek to provide "suitable operating conditions including access to facilities," for the expeditious conduct of business. This assurance, which is commonly referred to as business facilitation, is particularly important to U.S. firms since cooperation activities usually involve medium to long-term commitments of money and manpower in an unfamiliar and less developed commercial environment.<sup>14</sup> Business facilitation was featured prominently in the Trade Agreement<sup>15</sup> and is always a major topic for discussion at meetings of the Joint Economic Commission and the Romanian-U.S. Economic Council. Business facilitation also appears prominently in Basket II of the Final Act.

Article I also contains a provision which calls on each party to facilitate, in accordance with its legislation, all travel of persons engaged in activities consonant with the objectives of this Agreement. This was broadly drafted to expedite not only the travel of businessmen and officials of the two countries in each other's territory, but also to facilitate the travel of local employees who may be working for a foreign firm in a cooperation activity. In Romania, where a cooperation project may necessitate the hiring of Romanian nationals by a U.S. firm (including some involved in management), the ability of these nationals to travel outside Romania for training programs, regional seminars, or consultations at corporate headquarters can be important to the overall success of the cooperation activity.

In several instances in Article I, and for that matter throughout the Long-Term Agreement, there appear references that the parties will take appropriate steps or endeavor to take actions "in accordance with (or sometimes phrased in keeping with) applicable laws and regulations in the two countries." These words show that actions or commitments stemming from this agreement shall not conflict with or override any provisions of local law or regulation. The frequent use of this type of language in the Long-Term Agreement places an obvious premium on both sides learning as much as possible about each country's applicable laws and regulations during the negotiation stage for any cooperation activity.

<sup>14</sup> For example, U.S. firms operating in Romania are often frustrated by the lack of adequate quality office supplies, necessary xerox facilities, sufficient teletype facilities, etc.

<sup>15</sup> See Article IV (Business Facilitation) of the Trade Agreement.

Another provision of Article I relates to tariffs applied to goods produced under cooperation arrangements in the territory of one party which are then imported into the territory of the other party. The U.S. Government was not able to extend non-discriminatory treatment by this clause directly since under the terms of the Trade Act of 1974 this can only be done through a Congressionally approved bilateral agreement (as was done with the Trade Agreement), for a specified length of time, and subject to a number of requirements of the Act.<sup>16</sup> Thus, this clause simply states that imports stemming from cooperation activities shall be treated in accordance with the relevant provisions of the Trade Agreement (i.e., Article I of the Trade Agreement by which MFN was extended) for as long as those provisions remain applicable or as otherwise provided by applicable laws and regulations. Therefore, imports stemming from cooperation activities will be treated no differently than all other imports.

Article II established that cooperation activities shall be based on "contractual arrangements between firms, companies and economic organizations of the two countries" and further provides that general principles for the development and operation of cooperation activities are spelled out in Annex I (see below). This article also lists examples of what cooperation activities may include.<sup>17</sup> The range of activities covered in Article II is wide and yet it is by no means exclusive. The final sub-provision in this list provides that cooperation activities may include "other cooperation activities and forms which may be mutually agreed between participants in the two countries."

An important provision of Article II to the Romanian Government involves an assurance that each party shall arrive at export licensing decisions as expeditiously as is feasible under its established administrative procedures and in conformity with its laws, regulations and international undertakings. This language is clearly aimed at Romania's concern to get U.S. Government export license approval as quickly as possible on imports needed for cooperation activities. While the U.S. side was not willing to provide special treatment to exports to cooperation activities in Romania, it did express its intention to move the decision process as quickly as feasible under its own laws, regulations and administrative procedures as well as those of COCOM.<sup>18</sup>

Other provisions of Article II stress facilitating cooperation between the two countries in the form of joint banking institutions in each other's territory and in joint projects in third markets. The latter represents an effort by the Romanian Government to capitalize economically on the good political relations that Romania has established with the countries of the third world, and particularly those in Africa, Latin America and the Middle East. The Romanians see cooperation with U.S. firms in third world markets, particularly those rich in raw materials, as an opportunity to combine U.S. technology, know-how and managerial expertise with Romanian equipment, materials and manpower in successfully carrying out important

<sup>16</sup> See Title IV (Trade Relations with Countries Not Currently Receiving Nondiscriminatory Treatment), Sections 401-404 and 409 of the Trade Act of 1974, 19 USC 2101.

<sup>17</sup> Some examples are: joint participation in the construction of new industrial facilities, participation in joint companies for the production and/or marketing of goods and services, purchase, sale or lease of machinery and equipment, and licensing of technical information or know-how.

<sup>18</sup> COCOM (Coordinating Committee) is the operating arm of the Consultative Group, an informal international organization concerned with the control of strategic trade by Western nations with the Soviet Union and other communist countries.

projects. They see this form of cooperation as especially appealing in countries where for political reasons U.S. firms might be otherwise reluctant to enter the market. Third country cooperation has been a major topic of discussion at recent Joint Economic Commission meetings<sup>19</sup> and was most recently proposed by the Romanian Government as a topic for discussion at an experts meeting sometime in 1977.<sup>20</sup>

A provision in Article II also addresses what stands as the most often heard complaint by U.S. firms about doing business in Romania (both cooperation activities and non-cooperation trade)—the lengthy and protracted negotiation process, including an excessive number of trips to Bucharest. This provision notes that both parties “agree to encourage and facilitate accelerated negotiations between firms, companies and economic organizations of the two countries.” The language is similar to that found in Basket II of the Final Act. Its inclusion reflects the concern of the U.S. Government that, particularly in cooperation activities where the overall transaction is more complex and may require the ultimate input of a number of Romanian ministries and other economic and financial units, there is a real need to expedite the negotiation process. This topic has been discussed frequently in the Joint Economic Commission<sup>21</sup> and government agencies on both sides are continuing their efforts to remedy this problem.

Article III contains a provision calling for customs and tax exemptions on “equipment, materials and components imported temporarily for purposes related to contracts regarding cooperation activities” no different than the exemptions from customs duties taxes and restrictions granted to like equipment materials and components from any other country. This amounts to an MFN assurance on customs and tax exemptions by both sides.

This article also notes the importance of financing to the development of cooperation and states the parties’ agreement that “such financing as may be extended by them should enjoy conditions as favorable as possible.” The Romanian side had a strong interest in this type of provision because the Romanians see U.S. Eximbank credits as extremely important to the success of cooperation projects between firms, companies and economic organizations of our two countries. The provision in Article III cites the “particular characteristics of each case and the laws, regulations and international undertakings of each country” in reaching a decision to extend credit on conditions as favorable as possible. This conforms with the posture of Eximbank on extending loans. That is, Eximbank loan decisions are made on a case-by-case basis and considerations affecting the terms of these credits include the nature of the transaction, the borrower’s creditworthiness, the state of domestic and international financial markets, and the net economic benefit to the United States.

In Article IV the focus is solely on the provision of economic and commercial information by both countries, all in accordance with the laws, regulations and procedures of each country. Specifically, the article refers to the provision of “economic, commercial and statistical

<sup>19</sup> See paragraph No. 18, Agreed Minutes—Second Session and paragraph No. 12, Agreed Minutes—Third Session.

<sup>20</sup> See paragraph No. 13, Agreed Minutes—Third Session.

<sup>21</sup> See paragraph No. 15, Agreed Minutes—Third Session.

information useful for the development of market forecasts and the expansion of economic, industrial and technical cooperation." The article then lists illustrative types of information included in this definition. Included are statistical data regarding production, national income, budget, consumption, productivity, foreign trade and other information necessary to evaluate cooperation projects adequately, as well as information on firms, companies and economic organizations concerned with foreign trade (such as directories, and lists) and their promotional materials. As U.S.-Romanian commercial relations have improved the U.S. Government has stressed to the Romanian Government the need for an increased flow of economic and commercial information between the two governments. Such information is necessary to attract U.S. firms to cooperation activities in Romania and to facilitate the extension of credits through such vehicles as Eximbank and the U.S. CCC credit program. Information exchange has been a very prominent topic in the recent sessions of the Joint Economic Commission<sup>22</sup> and is a very important feature of Basket II of the Final Act,<sup>23</sup> which was used as a basis for agreement on much of the language of Article IV of the Agreement.

The remaining three articles are rather brief. Article V calls for the Economic Commission to monitor implementation of the Agreement and further notes that the Commission "may establish temporary working groups . . . for purposes related to this Agreement" and "may facilitate the establishment of joint consultative groups consisting of representatives of firms, companies and economic organizations of the two countries" on matters related to the purpose of the Long-Term Agreement. Article VI notes that the Agreement's provisions shall not be construed to impair either side's rights and obligations arising from other agreements and understanding. Finally, Article VII provides that the Long-Term Agreement is to remain in force for 10 years after which it will be automatically extended for successive one-year periods. This article also provides that the Agreement shall enter into force when both parties have received written notice of its approval by the other party which occurred on May 15, 1977.

#### V. ANNEXES TO THE LONG-TERM AGREEMENT

A major distinguishing feature of this long-term cooperation agreement from those which Romania has concluded with other Western countries is Annex I. Basically, this annex sets forth principles, in greater detail than in the body of the agreement, for the organization and operation of cooperation activities, including equity joint ventures. Annex I is divided basically into two parts—(1) provisions dealing with cooperation activities generally and (2) other provisions which specifically address joint ventures. While most of the rights enumerated in Annex I are either customary Western commercial rights or are provided for under local law or in bilateral agreements between the two countries, it serves as an important assurance to that part of the U.S. business community potentially interested in cooperation activities involving Romania. Similarly, since the principles and guidelines endorsed stress familiar Western elements of cooperation and joint ventures—the rights of ownership and management, sanctity of

<sup>22</sup> See paragraph No. 17, Agreed Minutes—Third Session.

<sup>23</sup> See "Business Contacts and Facilities" under item 1. Commercial Exchanges.

contract, competitive procurement, responsibility of management to its stockholders, etc., Annex I provides a common set of objectives from which U.S. firms can negotiate cooperation contracts in Romania. Annex I, then, should be seen as both an attraction and support to U.S. firms interested in cooperation activities with Romanian economic entities.

However, it should not be thought that Annex I benefits only the U.S. side; it is also useful to Romania which is seeking ways to expand its exports to hard currency paying countries and to conserve scarce convertible reserves without reducing importation of Western capital goods and technology. Through cooperation activities and in particular, equity joint ventures, Romania seeks to attract Western cooperation, including direct investment, and to secure guaranteed Western markets. American companies have not, as yet, been particularly active in cooperation and joint venture activities and this may stem, in part, from their lack of understanding about Romania's centrally planned economy and flexibility in negotiating cooperation and joint venture agreements. Thus, by providing American companies with the assurance that they can negotiate cooperation arrangements protecting their basic interests and by permitting them to operate in a legal and commercial environment not wholly foreign to them, Annex I may help to overcome these problems through a pragmatic, business-like approach to cooperation and foreign investment.

In the first part—regarding cooperation—Annex I outlines the rights that nationals, firms, companies and economic organizations of the two countries have in conjunction with cooperation activities—all consistent with applicable laws and regulations of the two countries and with agreements between the parties. Among these are the right to verify compliance with all contractual obligations, to include in cooperation contracts measures necessary to facilitate the hiring and compensation of local staff, and to transfer abroad the net proceeds of rights resulting from distribution of assets upon dissolution of the cooperation project. These are familiar and important principles to any Western firm.

Another important right is to have access to necessary commercial services and facilities no less favorable than those afforded to commercial representations under the Trade Agreement. This is, in effect, an MFN assurance for facilities and services, and it assures that the Long-Term Agreement parallels the business facilities provisions of the Trade Agreement.

Still further rights provide for contact and work with officials and technical personnel of each other's firms, companies and economic organizations engaged in cooperation activities and for the purchase of necessary equipment and materials from both domestic and foreign sources under competitive conditions. The right to contact and work with technical and working level officials may be particularly important to the success of a cooperation project since access to end-users is a frequent problem for Western firms in Eastern Europe. Similarly, the right to competitive purchase should assure both sides that the cooperation activity is enjoying the most advantageous conditions under which to operate and is not being forced into unfavorable arrangements.

With respect to disputes arising in connection with cooperation activities, Annex I first recommends that firms, companies and

economic organizations consider using the conciliation procedures established by the Romanian-U.S. Economic Council.<sup>24</sup> This conciliation mechanism was set up in order to offer an alternative means of settling disputes short of going to arbitration. The conciliation procedures are optional and nothing done in them hinders or prejudices further possible arbitration proceedings. It should be noted here that the Agreement recommends consideration of use of the conciliation procedures but does not endorse their use over any other dispute settlement provisions that the contracting parties might adopt.

Beyond conciliation procedures the Agreement further recommends "the adoption of arbitration under the Arbitration rules of the International Chamber of Commerce in Paris for the settlement of disputes between participants in cooperation activities." Whether this or another forum is ultimately used, Annex I notes that arbitration should take place in a country, other than the U.S. or Romania, that is a party to the Convention for the Recognition and Enforcement of Foreign Arbitral Awards of New York of June 10, 1958. For U.S. firms, arbitration before a known third country seat such as the ICC in Paris or Stockholm is much preferred. Arbitration in Romania, while preferred by Romanian economic organizations, has been generally avoided by U.S. firms.

The second part of Annex I concerns equity joint ventures. Again, the Agreement sets forth a set of general principles for the establishment and operation of these joint companies. Specifically, Annex I recognizes the right of a joint company to hire and compensate directly employees, other than those engaged in management, at rates similar to those predominant domestically in firms engaged in similar activities. This gives U.S. firms the assurance that discriminatory hiring practices and wage rates will not be established by Romanian authorities for local employees who are to work for joint companies.

Annex I also lists a number of rights important to the investors in establishing and operating joint companies. These include the right of investors to share in profits in proportion to their shares in joint company equity, to share in management of the joint company and to assure that management has full powers to direct and organize production, sales and other joint company activities, to limit their liability to the value of their capital participation, and to examine and verify on request the joint company's property and books. Of these the most important are the assurance regarding profits in proportion to one's investment and the assurance regarding participation in management. The latter has been of particular concern to U.S. firms which fear that because of their minority ownership position, they will not be able to exercise effective control of their joint companies.

With respect to disputes arising from investment in a joint company Annex I recommends that such disputes "be submitted for conciliation or arbitration as provided by the Convention on the Settlement of Investment Disputes between States and Nationals of Other States (ICSID). While the previous reference (in Annex I) to conciliation and arbitration procedures arising from disputes in cooperation agreements would also be applicable to the joint venture

<sup>24</sup> See "Papers of the Second Plenum—Romanian-U.S. Economic Council, Washington, D.C., May 29-30, 1975," (published by the Chamber of Commerce of the United States), at pp. 6-15 and p. 75, and "Papers of the Third Joint Session—Romanian-U.S. Economic Council, Bucharest, Romania, June 24-25, 1976," (published by the Chamber of Commerce of the United States), at pp. 23-30.

form of cooperation, the ICSID reference seems appropriate in an annex provision relating specifically to investment. Both the United States and Romania are parties to the ICSID Convention which is administered by the International Center for the Settlement of Investment Disputes, attached to the International Bank for Reconstruction and Development.

Finally, the Agreement contains a second annex (Annex II) which identifies areas of particular interest in which to develop cooperation between firms, companies and economic organizations of the two countries. These include:

1. Machine building industry;
2. Electrical and electronic industries;
3. Aviation industry;
4. Chemical and petrochemical industry;
5. Petroleum industry;
6. Mining industry;
7. Construction materials industry;
8. Light industry;
9. Food industry;
10. Telecommunications;
11. Computers and data processing;
12. Agriculture; and
13. Banking.

Of these, items 1, 2, 4, 5 and 6 are probably most important because of priority attached to them in the current Five Year Plan (1976-1980). It should be noted that items 3, 10 and 11 are also important and are really sub-sectors of the Romanian machine building industry. In view of the recent earthquake in Romania, considerably more significance may be attached now to cooperation in the construction materials industry. In any case, the list of Annex II is broad and reflects again the wide scope foreseen for cooperation activities by the Romanian Government at this time.

#### APPENDIX. LONG-TERM AGREEMENT ON ECONOMIC, INDUSTRIAL AND TECHNICAL COOPERATION BETWEEN THE UNITED STATES OF AMERICA AND THE SOCIALIST REPUBLIC OF ROMANIA

The Government of the United States of America and the Socialist Republic of Romania;

Noting with satisfaction the favorable development of economic relations between the two countries;

Resolved to promote economic, industrial and technical cooperation between the two countries on the basis of the principles of international law, respect for national independence and sovereignty, equality of rights, noninterference in domestic affairs and mutual advantage;

Taking into account the characteristics and economic potential of the two countries, and their respective levels of economic development;

Desiring to ensure continuous expansion and diversification of economic, industrial and technical cooperation and provision of information to facilitate such cooperation;

Wishing to enlarge upon the provisions of the Joint Statement of Economic, Industrial and Technological Cooperation between the United States of America and the Socialist Republic of Romania, of December 5, 1973, and taking into consideration the provisions of the Agreement on Trade Relations Between the United States of America and the Socialist Republic of Romania of April 2, 1975;

Determined to promote in their relations the objectives of the Final Act of the Conference on Security and Cooperation in Europe, and to give full effect

to all of its provisions, including those relating to economic, scientific and technological cooperation; and

Considering that expansion and development of cooperation between firms, companies and economic organizations of the United States of America and the Socialist Republic of Romania will serve positively the interests of the two countries and peoples;

Have agreed as follows:

#### ARTICLE I

1. The Parties shall take all appropriate steps to facilitate economic, industrial and technical cooperation between firms, companies and economic organizations, including those of small and medium size, in keeping with applicable laws and regulations in the two countries.

2. The Parties shall endeavor that firms, companies and economic organizations of one country and their representatives residing in or visiting the other country for purposes related to this Agreement will enjoy suitable operating conditions, including access to facilities required for the expeditious conduct of their business, in accordance with applicable laws and regulations.

3. Goods produced under cooperation arrangements in the territory of one Party shall, when imported into the territory of the other Party, be treated in accordance with the relevant provisions of the Agreement on Trade Relations of April 2, 1975, for the period those provisions remain applicable, or as otherwise provided by applicable laws and regulations.

4. Neither Party shall take unreasonable measures that would impair the contractual or other rights legally acquired within its territory, of nationals, firms, companies or economic organizations of the other Party.

5. Except for a public purpose, assets belonging to nationals, companies and economic organizations of one of the two countries will not be expropriated by the other country, nor will they be expropriated without the payment of prompt, adequate and effective compensation.

6. Each Party agrees to facilitate to the maximum extent possible in accordance with its legislation all travel of persons engaged in activities consonant with the objectives of this Agreement.

#### ARTICLE II

1. Cooperation activities shall be based on contractual arrangements between firms, companies and economic organizations in the two countries, in accordance with the laws and regulations in force in both countries. Such contracts will generally be concluded on terms customary in international practice, and may provide for sharing and transfer of benefits, participation in management and procedures to protect the resources committed by each partner in cooperation arrangements including joint companies. General principles for the development and operation of cooperation activities are set forth in Annex I to this Agreement.

2. Such cooperation activities may include:

Joint participation in the construction of new industrial facilities and the expansion and modernization of existing facilities in both countries;

Joint participation, including the formation of joint companies, by firms, companies and economic organizations of the two Parties, in producing and marketing goods and services;

Purchase, sale and leasing of machinery and equipment;

Purchase and sale of industrial and agricultural materials and consumer goods;

Purchase, sale, license or commercial exchange of patent rights, technical information, or know-how, as well as provision of technical services, including training and exchange of specialists and technicians, all in accordance with laws, regulations and procedures assuring that such arrangements are to the mutual advantage of both Parties;

Establishing and operation of offices and representations of firms, companies and economic organizations in the two countries;

Purchase and sale of services, including full and equitable participation by firms, companies and economic organizations of the two Parties in banking, insurance, including marine and air cargo insurance, and other financial services; and

Other cooperation activities and forms which may be mutually agreed between participants in the two countries.

3. Each Party shall arrive at export licensing decisions as expeditiously as is feasible under its established administrative procedures and in conformity with its laws, regulations and international undertakings.

4. The two Parties shall, as appropriate, facilitate cooperation between firms, companies or economic organizations of the two countries in third markets.

5. With a view to encouraging the development of banking services in support of economic, industrial and technical cooperation, each Party shall, where possible, facilitate the establishment and operation in its territory of banking institutions by firms, companies or economic organizations of the other Party in association with domestic firms, companies or economic organizations or individually.

6. All financial transactions shall be made in United States dollars or any other freely convertible currency mutually agreed upon by nationals, firms, companies and economic organizations, unless they otherwise agree.

7. The Parties agree to encourage and facilitate accelerated negotiations between firms, companies and economic organizations of the two countries, so that cooperation projects may be implemented as expeditiously as possible, and possibilities for discussion of new areas of cooperation may be enhanced.

8. The sectors mentioned in Annex II have been identified as areas of particular interest for the development of economic, industrial and technical cooperation between firms, companies and economic organizations of the two countries.

### ARTICLE III

1. The Parties shall take all appropriate steps to facilitate conclusion of contracts regarding cooperation activity between firms, companies and economic organizations of the two countries.

2. The two Parties shall grant to equipment, materials and components imported temporarily for purposes related to contracts regarding cooperation activity the same exemptions from customs duties, and other taxes and restrictions, that are granted to like equipment, materials and components from any other country, to the extent permitted by their laws and regulations.

3. Taking into consideration the importance of financing for the development of economic, industrial and technical cooperation; the particular characteristics of each case; and the laws, regulations and international undertakings of each country; the Parties agree that such financing as may be extended by them should enjoy conditions as favorable as possible.

### ARTICLE IV

In order to assist firms, companies and economic organizations in determining the fields and projects most likely to provide a basis for mutually beneficial contracts, each Party, in accordance with its laws, regulations and procedures, shall, as appropriate, make available upon request by nationals, firms, companies and economic organizations of the other Party, or by the other Party, economic, commercial and statistical information useful for the development of market forecasts and the expansion of economic, industrial and technical cooperation. Such information shall include, but not be limited to:

All statistical data regarding production, national income, budget, consumption, productivity, foreign trade and transfer of technology, necessary to accomplish the objectives of this Agreement.

Other information necessary for adequate evaluation of projects for cooperation, including information concerning laws, regulations and administrative procedures. Such information may relate, *inter alia*, to domestic commerce and foreign trade, including transfer of technology; to compensation of labor; and to banking and finance including the rates of exchange applicable to goods and services required for cooperation activities.

Current lists, directories and descriptions of firms, companies and economic organizations concerned with foreign trade, as well as other information helpful in making commercial contacts, including periodic catalogs and promotional materials of such firms, companies and economic organizations.

### ARTICLE V

1. The Joint American-Romanian Economic Commission, established pursuant to the Joint Statement on Economic, Industrial and Technology Cooperation of December 5, 1973, shall monitor implementation of this agreement.

2. In this respect the responsibilities of the Joint American-Romanian Economic Commission are as follows:

To examine periodically the development of economic, industrial, and technical cooperation between the two countries;

To facilitate the expansion and diversification of economic, industrial, and technical cooperation between the two countries on the basis of mutual benefit, and to identify new areas for such cooperation;

To provide for the regular exchange of views and information on the development of economic, industrial and technical cooperation and on the reciprocal extension of business facilities; and

To consider other matters related to implementation of this Agreement.

3. The Commission may establish temporary working groups in various areas as necessary for purposes related to this Agreement.

4. The Commission may facilitate the establishment of joint consultative groups consisting of representatives of firms, companies, and economic organizations of the two countries on matters of particular interest related to this Agreement.

#### ARTICLE VI

The provisions of this Agreement shall not be construed to impair the rights and obligations of the Parties arising from other agreements or understandings.

Termination of this Agreement shall not affect the validity of contracts or understandings, in force on the date of termination of the Agreement, between nationals, firms, companies, and economic organizations of the two countries, or entered into by either Party.

#### ARTICLE VII

This Agreement shall enter into force on the date on which both Parties have received written notice of its approval by the other Party.

This Agreement shall remain in force for ten years. Thereafter it shall be automatically extended for successive periods of one year, provided that either Party may terminate it at the end of the initial ten-year period or of any successive one-year period by giving six months' written notice to the other Party.

IN WITNESS WHEREOF, the authorized representatives of the Parties have signed this Agreement.

DONE at \_\_\_\_\_ on \_\_\_\_\_ in two original copies, in the English and Romanian languages, both texts being equally authentic.

ELLIOT L. RICHARDSON /s/

ION PATAN /s/

FOR THE GOVERNMENT OF \_\_\_\_\_ FOR THE GOVERNMENT OF  
THE UNITED STATES OF AMERICA: \_\_\_\_\_ THE SOCIALIST RE-  
PUBLIC OF ROMANIA.

#### ANNEX I

The Parties recognize the desirability of general principles for the development and operation of cooperation activities, as enumerated in Article II of this Agreement, in which nationals, firms, companies and economic organizations of one Party may participate in the territory of the other. Therefore, the Parties recommend the following principles, subject to laws and regulations in force in the territory of the Party where such cooperation activities take place.

1. Such nationals, firms, companies and economic organizations of a Party, consistent with applicable laws, regulations, and agreements between the Parties, should have the right:

A. To be free to transfer abroad, without discriminatory restrictions and fees, and under the conditions stipulated between the participants, net proceeds, and the value of capital participation, of rights resulting from distribution of assets upon dissolution, and of all other rights to which they are entitled, after payment of fees, taxes, contributions to social insurance and satisfaction of other legal and contractual obligations;

B. To verify compliance with all contractual obligations;

C. To include in the contracts of cooperation measures to facilitate hiring and compensation of necessary local staff for implementation of obligations resulting from cooperation projects, in accordance with laws and regulations in force in the two countries;

D. To purchase installations, equipment and materials necessary for cooperation activities from domestic or foreign sources according to competitive criteria;

E. To have access to services and facilities necessary for the conduct of business which is no less favorable than that accorded to firms, companies and economic organizations of any third country;

F. To contact and work with officials and appropriate technical personnel of firms, companies and economic organizations of the other Party engaged in cooperation activities, including as necessary, suppliers of services, supplies and components for cooperation activities, and users of goods produced through such cooperation activities;

G. To enjoy rights and facilities no less than those accorded to representations under the provisions of Annex 2(I) of the Agreement on Trade Relations of April 2, 1975, between the two Parties; and

H. To exercise other rights, and carry out obligations agreed upon between participants in the two countries in their contracts.

2. The Parties recommend that firms, companies and economic organizations give consideration to the use of conciliation procedures established by the Joint U.S.-Romanian Economic Council. The Parties further recommend the adoption of arbitration under the rules of arbitration of the International Chamber of Commerce in Paris for the settlement of disputes between participants in cooperation activities. Such arbitration should take place in a country other than the United States of America or the Socialist Republic of Romania that is a party to the Convention for the Recognition and Enforcement of Foreign Arbitral Awards of New York of June 10, 1958. Participants may mutually agree on any other form or place for the settlement of disputes.

3. The Parties agree that informal government-to-government consultations regarding specific proposals for major cooperation projects between firms, companies or economic organizations of the two Parties, or major investments by firms, companies or economic organizations of one Party in the territory of the other Party, would contribute to achievement of the objectives of this Agreement. Such consultations should take place at the request of either Party prior to conclusion of arrangements for such activities.

4. The Parties also recommend the following general principles for the establishment and operation of joint companies in the territory of one Party, involving capital participation by firms, companies and economic organizations of the other Party. Such joint companies should have the right to hire and compensate directly employees, other than those engaged in management, in conformity with applicable laws and regulations, at rates similar to those predominant domestically in firms, companies or economic organizations engaged in similar activities. Firms, companies and economic organizations participating in such joint companies should have the right, subject to laws and regulations in force in the territory of the Party where the joint company is established:

A. To share in profits in proportion to capital participation in the joint company;

B. To share, in proportion to their capital participation, in assets resulting from termination and dissolution of the joint company;

C. To transfer for value all or part of the rights arising from capital participation, as provided in applicable laws and regulations, and in conformity with the legal instruments establishing the joint company;

D. To examine and verify, upon request, the status of the company's property and books of account, in conformity with the legal instruments establishing the joint company;

E. To participate in management or, to be represented in management in equitable proportion to their capital participation in the joint company in accordance with applicable laws and regulations;

F. To limit their liability for the obligations of the joint company to the value of their capital participation;

G. To enter into arrangements for management of the joint company which will assure that management has full powers, consistent with laws and regulations in force, to direct and organize production, sales and other activities of the joint company; and

H. To exercise other rights and to carry out other obligations agreed upon by participants in the joint company, in conformity with the legal instruments establishing the joint company.

5. The Parties recommend that disputes between one Party and a national, firm, company or economic organization of the other Party which arise out of an investment be submitted for conciliation or arbitration as provided by the Convention on the Settlement of Investment Disputes Between States and Nationals of Other States.

## ANNEX II

In accordance with Article II, paragraph 8 of this Agreement, the following sectors have been identified as areas of particular interest for the development of economic, industrial and technical cooperation between the firms, companies and economic organizations of the two countries:

- Machine building industry;
- Electrical and electronic industries;
- Aviation industry;
- Chemical and petrochemical industry;
- Petroleum industry;
- Mining industry;
- Construction materials industry;
- Light industry;
- Food industry;
- Telecommunications;
- Computers and data processing;
- Agriculture; and
- Banking.

# STRATEGY AND STRUCTURE IN THE ORGANIZATION OF ROMANIAN FOREIGN TRADE ACTIVITIES, 1967-75

BY JOSEF C. BRADA AND MARVIN R. JACKSON\*

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### I. INTRODUCTION

In the late 1960's and early 1970's most of the socialist states of Eastern Europe undertook significant reforms of their foreign trade organizations. These changes involved the creation of new organizational structures, changes in the price regime and new decision-making criteria and managerial incentives. The existing literature generally describes, but does not subject organizational changes to systematic analysis. By contrast, the second and third categories of systemic changes have been extensively described and analyzed. While this direction of effort is quite explicable as reflecting the usual interests and methodologies of western economists, we consider it to be an anomaly. Considering the body of systemic changes so far undertaken, the attempt to remedy deficiencies in the trade system by changes in organizational structure and organizational units have been more common among the East European countries than have been changes in price regimes, decision-making criteria and management incentives.

The purpose of this paper is to present a conceptual framework for the analysis of organizational change in the structure of East European foreign trade activities and to study the Romanian experience with organizational changes within this framework.

### II. A THEORY OF FOREIGN TRADE ORGANIZATIONS

With a few notable exceptions, the impact of the goals of the socialist countries on the ways in which they are organized and on the consequences of organization for economic behavior have been neglected. In contrast, an extensive literature has evolved regarding the interactions between corporate strategies or goals, the organizational structure of the corporation and the success in achieving corporate

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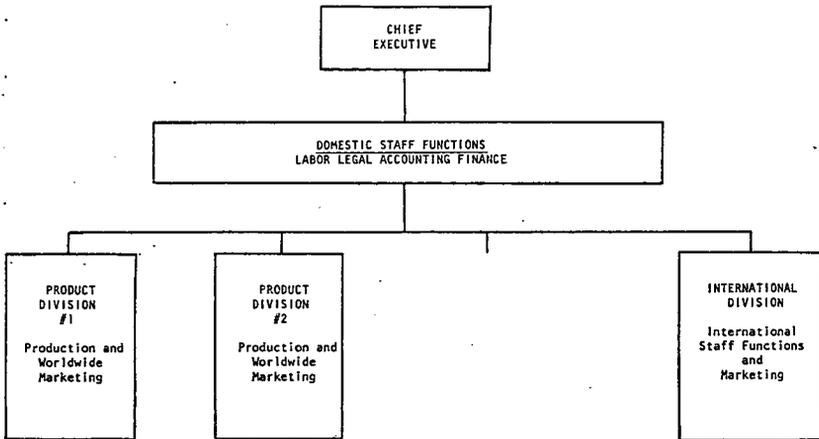
We are deeply grateful to our Romanian colleagues and to Romanian foreign trade officials for many useful interviews on matters discussed in this paper.

strategies.<sup>1</sup> In deference to this literature, we shall develop our theory in terms of a western corporation and only as a last step indicate the relevance of this theory to the experience of the socialist states.

Since we are dealing with the organization of foreign trade, the object of our study will be a corporation just beginning to engage in foreign trade activities. Generally, such firms utilize an international division form of organization as illustrated in Figure 1.<sup>2</sup> The international division orders goods from the product divisions, each of which is responsible for the production and sale of a product domestically, and sells them abroad. This form of organization has a number of behavioral implications. Production is divorced from international markets, since the product divisions sell to the international division. Purchase orders thus flow from one division to another. However, changes in the product to meet the needs of foreign clients, alterations in production schedules to meet foreign needs, etc. involve requests by the international division to top management followed by instructions issued to the producing division. Such requests are likely to be infrequent at first and upper management will generally only concern itself with the aggregate performance (sales and profits) of the international division.

FIGURE 1

## INTERNATIONAL DIVISION STRUCTURE



<sup>1</sup> For a brief survey see Raymond Vernon, *The Economic Environment of International Business*, Prentice-Hall, Englewood Cliffs, New Jersey, 1972, Ch. 11. More detailed presentations may be found in Paul R. Lawrence and Jay W. Lorsch, *Organization and Environment: Managing Differentiation and Integration*, Graduate School of Business Administration, Harvard University, Boston, 1967, and Charles Perrow, *Organizational Analysis: A Sociological View*, Wadsworth Publishing, Belmont, California, 1970.

<sup>2</sup> The classic study on the organization of multinational firms in John M. Stopford and Louis T. Wells, Jr., *Managing the Multinational Enterprise*, Basic Books, New York, 1972. See especially pp. 4-11.

As the international division expands its operations, however, its interactions with the rest of the firm increase in volume and intensity.<sup>3</sup> Upper management comes to view international activities as increasingly significant in overall operations, and will require greater amounts of information from the international division and take foreign developments increasingly into consideration when formulating corporate strategies. Furthermore, the growing power of the international division, coupled with the increased volume of foreign sales relative to total production, lead the international division to increasingly importune top management to alter the activities of the product divisions so as to meet the requirements of the foreign market.

In such a situation the international division tends to create several problems. First of all, communications within the organization tend to become excessive. Top management is now faced with the task of monitoring both domestic product divisions and the sales of those same products in several foreign markets. Furthermore, management's ability to plan effectively for both domestic and foreign operations is hampered by the continual need to mediate between the needs of the international division and the desires of the product divisions.<sup>4</sup> That is to say, top management is involved in solving day to day responses to international events.

At some point, then, the corporation finds its increasingly international strategy inconsistent with its organizational structure, and a new form of organization appears. This form, commonly known as the global structure, dispenses with an international division.<sup>5</sup> Rather, as shown in Figure 2, the product divisions now become fully responsible for both domestic and foreign sales of their output. Consequently, upper management now need only monitor results by product division, without concern for the domestic-foreign dichotomy. Managers of the product divisions, on the other hand, now monitor and respond to international events in the same fashion as they do to domestic events; product design, production schedules, etc. are now influenced by both foreign and domestic requirements. Thus, as the name implies, the global firm makes no distinction between the domestic and the international market.

Both types of organization have inherent strengths and weaknesses! The international division form tends to perform poorly in terms of economics but well in terms of economizing on international expertise. Poor economic performance is, as we have indicated, the result of the separation between the producing division and the international division. Furthermore, any response to international events in terms of corporate strategy or the behavior of the product divisions must be made by top management. Thus, response to such events is likely to be sluggish and to occur only in response to major events. The advantage of the international division is its ability to centralize the corpora-

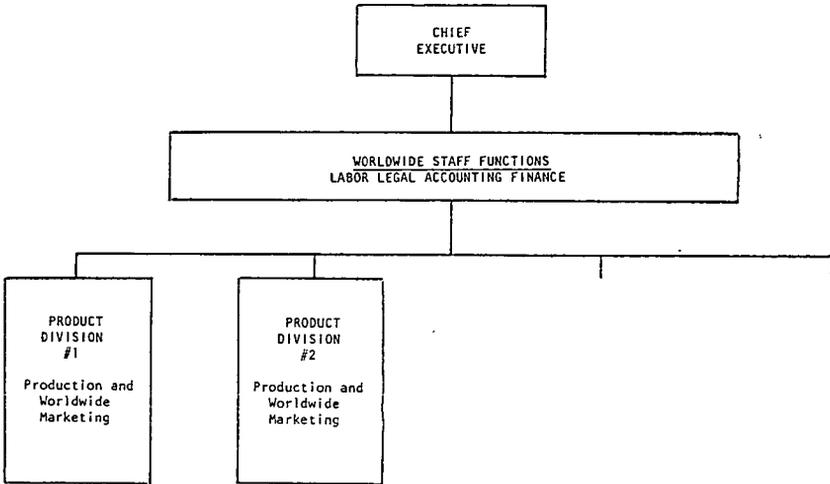
<sup>3</sup> See John Fayerweather, *International Business Management: A Conceptual Framework*, McGraw-Hill, New York, 1969, Chapter 6.

<sup>4</sup> William A. Dymsha, *Multinational Business Strategy*, McGraw-Hill, New York, 1972, Chapter 2.

<sup>5</sup> The creation of the global form comes about not only from an increase in the volume of foreign business but also from increased product diversity. Stopford and Wells, *op. cit.*, p. 30, observe that "... product diversification abroad is associated with the move from an international division to a global structure".

FIGURE 2

## GLOBAL STRUCTURE



tion's presumably limited expertise on international operations and to apply it to the marketing of the entire assortment of the firm's products. Thus, the firm makes the best possible use of its international expertise.

The global form is superior to the international division in terms of economic performance, but demands as a prerequisite a large number of personnel skilled in international operations. Economic efficiency is the result of the greater responsiveness of the producing divisions to the needs of the international market, the economic stake that each product division has in foreign sales, and the better interaction between sales and producing departments. Overall, such a firm will react quickly and effectively to international events. However, the cost associated with a viable global firm is the need to staff each product division with enough managers skilled in international operations to permit it to effectively undertake foreign sales. If such individuals are lacking, product divisions will not be effective on international markets, and interest in exporting will eventually disappear.

The reader familiar with East European foreign trade organizations will by now have recognized the similarity between the international division form of company and a traditional centrally planned economy. The planned economy has branch ministries whose functions and relationship to the ministry of foreign trade exactly parallel the relationship between the product divisions and the international division. Indeed the complaints regarding problems of foreign trade observed in the East European press are almost identical to complaints heard among executives of western companies with similar organizations.

In the next section of this paper we shall show that sometime after 1965 Romania found the international division form of organization inappropriate in the light of its international strategy. This strategy had two key elements. One was a reorientation of trade toward the west, where the need for effective marketing of Romanian goods was of much greater importance than in intra-CMEA trade. The other element was a greater emphasis on the sale of machinery and consumer manufactures. These, however, are exactly the goods which require the greatest interaction between sales and production and responsiveness to market trends by the producer. Consequently, Romania shifted to a global form of organization by giving enterprises the right to engage in international trade on their own. The means by which this reorganization was carried out and its consequences are detailed in the next section.

### III. REORGANIZATION OF ROMANIAN FOREIGN TRADE ACTIVITIES, 1967-75

Evidence suggests that changes in economic organization were discussed among higher party circles in Romania following Ceausescu's succession to power in 1965. However, open discussion of the question did not occur until after publication of a decision by the Romanian party central committee in October 1967, to follow other socialist countries in the establishment of industrial associations and to undertake other measures to rid the economic management system of "excessive centralization."<sup>6</sup>

The tone of the Central Committee Directives and pronouncements made at the subsequent National Party Conference in December 1967, which affirmed the Directives, suggested that changes in foreign trade organization would be closely connected with creation of the industrial associations. At the Party Conference, Ceausescu said, "Measures are foreseen for the elimination of the phenomena of excessive centralization existing in import and export activities, the passing of a large part of the activities of foreign trade to the responsibilities of the ministries, industrial associations and some enterprises, and the establishment of direct, more operational relations between the economic units and the foreign clients".<sup>7</sup> The Directives had also indicated that the associations would be involved in an expansion of Romania's foreign trade agencies and in the establishment of mixed foreign-based commercial companies with foreigners for promotion of Romania's exports.

Contrary to the occasionally urgent tone of the Directives and the Conference, subsequent organizational changes were not radical and were much delayed. The organization of the system of industrial associations was not undertaken until October, 1969.<sup>8</sup> The resulting

<sup>6</sup> Directives of the Central Committee of the Romanian Communist Party of 5 and 6 October, 1967, "On the Perfection of Management of the National Economy in Keeping with the Conditions of the New Stage of Romania's Socialist Development".

<sup>7</sup> N. Ceausescu, "Raportul cu privire la masurile de perfectionare a conducerii si planificarii economiei nationale si la imbunatatirea organizarii administratie-teritoriale a Romaniei," presented at the National Conference of the R.C.P., 9 December 1967, in *Romania pe drumul desavirisirii constructiei socialiste*, Vol. 2, p. 569. Further references to the volumes of Ceausescu's collected speeches will use the shorter title—*Romania pe drumul*.

<sup>8</sup> "Association" is a common western name given to intermediate units of management, between a ministry and its enterprises, created by the COMECON nations in the 1960s. The actual name and authority varied from country to country. In Romania, the actual name is *centrale*.

associations received far less power in deciding production, supply, or organizational matters than suggested either in 1967 or as provided in the model statutes for the associations published in March, 1969.<sup>9</sup> Furthermore, many details of the new organization were not formalized until October, 1971.<sup>10</sup>

The role of the associations in foreign trade was not formalized until the passing of the foreign trade law in March, 1971.<sup>11</sup> Unfortunately, the importance of the March foreign trade law and the role of the associations in foreign trade have been generally exaggerated by Western observers who have tended to attribute too much foreign trade power to the associations, and who perhaps have been misled by important differences in the apparent legal rights given to the associations in foreign trade and their *de facto* power. It is correct that the March law established, in principle, extensive powers for the associations in foreign trade. However, even before the law was passed, foreign trade had been turned over to the industrial ministries and a completely new financial regime for foreign trade transactions had been established. From this point of view, important "reforms" of the foreign trade system were underway before 1971. Moreover, all rights given in principle to the associations by the Law were subject to specific approval by higher authorities. They were not automatically granted to each association by the Law. As it turned out, limited decentralization of foreign trade decision-making to the associations took place only during a two-year period following the Law and then in 1973 and more seriously in 1975; recentralization occurred.

#### A. The Period of Decentralization—1967-72

Ceausescu's first declaration of a need to change foreign trade organization was made during a meeting with foreign trade personnel in February, 1967.<sup>12</sup> His major concern appeared to be the more rapid growth of imports than exports since 1960 and the large balance of payments deficit in the current five-year plan period. In suggesting remedies for the problem, Ceausescu denounced excessive centralization which impeded exports. He called for a greater role in trade of the industrial ministries and large industrial enterprises and more direct ties between producers and clients.

Between 1967 and 1969, eight foreign trade enterprises were transferred from the foreign trade ministry to the industrial ministries and other central agencies.<sup>13</sup> In 1968, the Romanian Bank of Foreign Trade was established as a central agency to be solely concerned with foreign currency transaction and foreign credits. It is evident that with decentralization of trade transactions, a more specialized agency would be needed to avoid the industrial ministries' independent use of credits and foreign currencies.<sup>14</sup>

<sup>9</sup> Iancu Spigler, *Economic Reform in Rumanian Industry*, Oxford University Press, London, 1973. See especially pp. 60-70.

<sup>10</sup> Law 11 of 21 October 1971, "Cu privire la organizarea si conducerea unitatilor socialiste de stat," published in *Buletin oficial* number 130, 21 October 1971. For discussion of the law see Spigler, *op. cit.*, p. 63.

<sup>11</sup> "Law 1 of 17 March 1971," published in *Buletin oficial*, Part I, number 33, 1971. English translations of this law have been published by the Romanian Chamber of Commerce.

<sup>12</sup> "Cuvintare la constatarea privind activitatea in domeniul comerului exterior, 23 februarie 1967" in *Romania pe drumul*, Vol. 2, pp. 214-234.

<sup>13</sup> *Finante si credit*, 1969/12, p. 38.

<sup>14</sup> Law number 16 of 21 June 1968 published in *Buletin Oficial*, number 80, June 22, 1968.

Other major changes took place in late 1969 when the whole system of central agencies was reorganized. In September, 1969, the ministry of foreign trade was reorganized to stress its new role as general coordinator of the foreign trade system. It was also decreed that beginning January 1970, ten more foreign trade enterprises would be transferred from the foreign trade ministry to the industrial ministries where, in addition, three new, more specialized foreign trade enterprises would be formed.<sup>15</sup> By the time the 1970 foreign trade guide was published, only three foreign trade enterprises specializing in commodity trade remained subordinate to the foreign trade ministry. The industrial ministries now had nearly complete responsibility for direct trade activities. In addition, the number and specialization of their subordinate foreign trade enterprises had been increased, especially for machinery and manufactured consumer goods. These and subsequent changes in the Romanian foreign trade organization are summarized in Table 1.

Establishment of the foreign trade bank in 1968 was but a small part of the needed changes in the financial and planning system required by the dissolution of the ministry of foreign trade monopoly.<sup>16</sup> Hence, a number of other changes were made in late 1969 which remain as the fundamental financial and planning principles of the foreign trade system.<sup>17</sup> These were the following:

(1) Planning targets for "deliveries to the ministry of foreign trade of export goods" were replaced by planning targets for "exports" which became the common responsibility of foreign trade enterprises and industrial associations and enterprises.

(2) The bulk of trade contracts with foreigners were to be signed by the managers of producing organizations so "title" to exports passed directly from producer to foreign buyer with the foreign trade enterprises that arranged the transaction being paid a commission.<sup>18</sup>

(3) Export plans of industrial enterprises, associations and ministries were to be considered as fulfilled only when documents of acceptance by the foreign buyer were presented to the Foreign Trade Bank for collection and, in cases established by the central authorities, when planned average external prices and planned regional distributions of exports were also realized.

(4) A new system of credit, foreign currency controls and transactions between domestic and foreign currency was established.<sup>19</sup>

(5) A new system of internal prices for export goods was established using "calculated prices" (*pretul de calcul*) limiting turnover taxes and profits to ten percent of cost; also in special cases an "export premium" (*premiu de export*) of 4-6% price mark-up could be used as an incentive.

<sup>15</sup> *Viata economica*, 1970/6 (February 6), p. 4 (Reference is to Decree number 622 of 12 November 1969).

<sup>16</sup> At the December, 1968, plenum of the party central committee, Ceausescu said "Measures have been taken for a better organization of the foreign trade sector". He did not specify these measures, but went on to speak of the need to change the financial system, including internal prices, in order to obtain better control and producers' incentives to export. *Romania pe drumul*, Vol. 3, pp. 792-3.

<sup>17</sup> Decree number 2424/69. The decree is discussed more fully in Marvin R. Jackson, "Prices and Efficiency in Rumanian Foreign Trade", in Josef Brada (ed.), *Quantitative and Analytical Studies in East-West Economic Relations*, International Development Research Center, Bloomington, 1976. Also see *Viata economica* 1970:6 (February 6) pp. 3-4 and 1970:15 (April 10) p. 8.

<sup>18</sup> According to *Viata economica*, 1973:6 (February 9), p. 14, the first use of commission contracts between producers and foreign trade enterprises was provided by Decree 2424/1969.

<sup>19</sup> Effected on the basis of Decree 2424/1969 by Ministry of Finance instruction 17/1970, beginning March 1, 1970 (*Viata economica*, 1970:15 (April 10) p. 8).

TABLE I.—NUMBER, SUBORDINATION AND COMMODITY SPECIALIZATION OF ROMANIAN FOREIGN TRADE ORGANIZATIONS<sup>1</sup>

	1969			1970			1971 <sup>4</sup>	1972 <sup>2</sup>	1973			1974			1975		
	1968 <sup>3</sup>	(a) <sup>3</sup>	(b) <sup>2</sup>	(c) <sup>4</sup>	(a) <sup>3</sup>	(b) <sup>2</sup>			(c) <sup>4</sup>	(a) <sup>3</sup>	(b) <sup>2</sup>	(c) <sup>4</sup>	(a) <sup>3</sup>	(b) <sup>2</sup>	(c) <sup>4</sup>	(a) <sup>3</sup>	(b) <sup>2</sup>
Commodity specialization <sup>4</sup> .....	18	8	0	3	26	4	20	-----	2	29	21	2	29	22	4	27	8
1. Machinery and engineering services.....	6	7	-----	1	9	1	-----	(21)	13	6	-----	13	7	1	15	3	-----
2. Chemicals.....	1	1	-----	-----	1	-----	-----	(5)	3	2	-----	2	3	-----	3	-----	-----
3. Fuels and materials.....	4	6	-----	2	5	-----	-----	(11)	5	-----	-----	6	-----	1	4	-----	-----
4. Foods.....	5	5	-----	-----	5	-----	-----	(4)	1	2	3	1	2	3	1	3	1
5. Manufactured consumer goods.....	6	7	-----	-----	6	3	-----	(15)	1	6	10	1	6	10	1	2	4
Total.....	22	26	-----	3	26	4	-----	(56)	2	29	21	2	29	23	4	27	8

<sup>1</sup> Includes an organization's importing and exporting commodities and/or engineering services, but excludes other services.

<sup>2</sup> Industrial Ministry.

<sup>3</sup> Ministry of Foreign Trade.

<sup>4</sup> Association.

<sup>5</sup> Indicates either the UN or the author's judgement based on Romanian commodity lists for various enterprises.

SOURCES

1968—United Nations, Economic Bulletin for Europe, vol. 24:1 (1973) p. 37.

1969—Economic and Commercial Guide to Romania, 1969-70 (Bucharest) pp. 153-192 which was published Jan. 28, 1969. Between 1967 and 1969, 8 foreign trade enterprises were reported to have been transferred from the Ministry of Foreign Trade to the industrial ministries (Finante si Credit, 1969/12 p. 38).

1970—Romania, Pocket Commercial Guide, 1970 (Bucharest 1970).

1971—Unknown, except for 20 trade organizations reported under the associations by Galgau, op. cit. p. 17 (as established in Decree No. 28 of 1971).

1972—Numbers in parentheses indicate organizations reported in United Nations, op. cit., p. 37. Total number is explained in the text.

1973—Your Commercial Partners in Romania, 1973 (Bucharest 1973) which contains the same list as in decree No. 465 dated Mar. 3, 1973.

1974—The Economic and Commercial Guide to Romania, 1974 published Dec. 31, 1973, contains the same list as that for 1973 above except that the foreign trade enterprises "Auto-Dacia" and "Universal-Tractor" are separate in 1974. The number given in the table is that given in decree No. 275 dated Mar. 22, 1974 (which modified decrees 28/1971 and 465/1973).

1975—Your Commercial Partners in Romania, 1975 (Bucharest, 1975).

According to the second principle above, the approximately 200 industrial associations which had been formed in 1969 and 1970, and even the more numerous industrial enterprises, were given the right to engage directly in trade. Thus, the principle incorporated later in the 1971 Foreign Trade Law had already been established. However, there is no evidence that such rights, in fact, were given in 1970 or even in early 1971.<sup>20</sup> Following publication of the Foreign Trade Law in March, 1971, the Council of Ministers in a special decree granted twenty associations the right to organize their own foreign trade activities. It was unclear whether these associations did so through internal commercial departments, or through subordinate, but financially independent, foreign trade enterprises.<sup>21</sup>

The available evidence makes it difficult to establish exactly what happened in the remainder of 1971 and 1972.<sup>22</sup> Two clues to the situation are (1) a comment in *Probleme Economice* (1972:12, pp. 28-29) that "over 90 industrial associations and enterprises, as well as specialized enterprises" were authorized to execute foreign trade transactions, and (2) a subsequent interview source who said that in 1971 there were 96 separate organizations involved in export marketing and sales. "Specialized enterprises" in the first reference probably refers to foreign trade enterprises, of which 56 were reported to exist in 1972 (with unknown subordinations). Therefore, it may be surmised that some 34 to 40 industrial associations and enterprises were undertaking foreign trade through their internal departments. Thus, it appears that industrial associations and enterprises acquired important responsibilities for exploring foreign markets, contacting buyers and negotiating trade contracts.

### B. The Period of Recentralization—1973-75

Organization decentralization of foreign trade ended in 1973 when the whole economy was subjected to recentralization. In his speeches to the Central Committee in February and November, Ceausescu voiced dissatisfaction with the new management system,<sup>23</sup> but, while in February he was still talking about "shortcomings in eliminating excessive centralization", in November he called for greater discipline and warned that "democracy does not mean to leave the development of things to an accidental [i.e., unplanned] direction." The atmosphere of 1973 was certainly one of tightening up and the development of more ambitious growth targets leading to the slogan of "fulfillment of the five-year in 4½ years"—that is, by mid 1975. Among the specific

<sup>20</sup> According to a discussion by enterprise directors in one country (*judet*) which was published in *Viata economica*, 1971:5 (January 29), p. 5, the associations had organized sections or compartments for "expediting" (*desfacere*) of export goods, but did not have sufficient personnel to undertake other functions such as negotiation of exports contracts, which yet remained in the hands of the foreign trade enterprises under the industrial ministries.

<sup>21</sup> Decree number 28 of January 1971, mentioned in Vasile Galgan, *Organizarea si urmarirea activitatii de comerț exterior ka cenlarala si intrepinderea industriala*, Bucharest, 1973, p. 17. Another source stated that according to this decree, "a large number of the units with foreign trade activities are the producing units or subordinations to the producing units. Thus, corresponding to this decree, activities of importing and exporting . . . are undertaken in the greatest part by the directorates (*directii*) and services (*servicii*) in the associations . . . and in a reduced measure by enterprises subordinated to the ministry of foreign trade". A. Aibu, *et. al.*, *Conducerea si tehnica comerțului exterior*, Bucharest, 1971, Vol. II, p. 80.

<sup>22</sup> Unlike other years since 1970, no foreign trade guides for this period seem to have been published. If, in fact, such guides were not published, it might have indicated a state of change and a situation difficult to describe to foreigners.

<sup>23</sup> Among his criticisms were (1) failure to meet the labor and cost reduction plans for 1972, (2) dispersion of investment funds and failure to fully utilize capital equipment (the latter problem led to a March, 1973 law to increase third-shift operations in all factories) and (3) over staffing of associations, ministries and central agencies with technical-managerial personnel badly needed at enterprises.

changes in general economic management were the following: (1) Imposing a standard internal organizational structure on the associations and enterprises,<sup>24</sup> (2) reducing the number of associations from 200 to less than 100, and increasing the authority of industrial ministries over the association,<sup>25</sup> (3) increasing the number of centrally allocated products in the State Plan for 1974 from 180 to 720,<sup>26</sup> and (4) a sharp reduction in decentralized investments for 1974.<sup>27</sup>

Ceausescu's comments on foreign trade in February, 1973, were his usual urging to do everything better and gave no hint of major organizational changes. The first such indication was provided by Council of Ministers decree nr. 465 of May 3, 1973 which gave direct trade activities to only 20 centrals, 11 of which operated through subordinate departments (or boards) and 9 of which had subordinate foreign trade companies.<sup>28</sup> The foreign trade guide book for 1973 indicated that under the same decree some foreign trade organizations had been combined so the total (including enterprises and boards) had been reduced slightly from 56 in 1972 to 52 in 1973, 32 of which were subordinate to industrial ministries and other central agencies.<sup>29</sup>

In November, Ceausescu announced that the 1974 plan provided for equilibrium in the balance of foreign payments for the first time since the Communists acquired power in August 23, 1944 and indicated that a long term target was proposed to eliminate most foreign debt by 1980. In stating these targets which implied a considerable effort to export, he said it is clear that many managers from enterprises, associations, and even ministries still treat foreign trade as "a peripheral, secondary, occupation". He announced it was necessary, beginning in 1974 to eliminate the distinction between "centralized" and "departmental" imports. To administer the new import system, by December, 1973, a single agency was to be designed to import each product for the whole economy. The formal assignments for imports were announced in a decree of the Council of Ministers dated March 22, 1974, which also listed approximately the same number of subordinations of authorized foreign trade organizations as had been listed in the foreign trade guides published for foreigners in 1973 and 1974.<sup>30</sup>

Ceausescu's speech of May, 1974, to the foreign trade personnel was sharply critical. Among his complaints were: (1) Production of poor quality and outdated products for export, (2) bureaucratic attitudes in dealing with foreign clients, (3) ignoring the dual subordination of trade organizations to the ministry of foreign trade and failure of trade enterprise directors to report shortcomings of the industrial ministries to the foreign trade ministry, (4) too much open talk about imports and exports which are commercial and trade secrets, (5) a tendency to send too many representatives abroad, and (6) too great

<sup>24</sup> Decree number 169 of 22 March 1973 (pr v nd stabilirea normelor unitare de structura pentru unitatile economice) published in *Buletin Oficial*, number 65, May 11, 1973.

<sup>25</sup> Decree number 367 of 9 April 1973 (privind unele masuri de reorganizare a centralelor industriale, unitatilor asimilate acestora, precum si a unor interprinderi de stat) published in *Buletin Oficial* number 128, August 17, 1973.

<sup>26</sup> *Probleme economice*, 1973:11, pp. 19-26;

<sup>27</sup> N. Ceausescu, "Cuvintare la plenara comuna a C.C. al P.C.R. si consiliului, supreme al dezvoltarii economice si sociale a Romaniei, 28 noiembrie 1973". *Romania pe drumul*, Vol. 8, p. 632.

<sup>28</sup> Galgau, *op. cit.*, p. 15, 16, 22 & 29.

<sup>29</sup> These numbers will include only organizations engaging in commodity trade.

<sup>30</sup> Decree of the Council of Ministers (HCM) number 275 of March, 1974, "Privind unele masuri pentru imbunatatirea activitatii de comert exterior". Published in *Buletin Oficial* number 43 of 27 March 1974. Actually the foreign trade guides showed an increase of two foreign trade organizations from 1973 to 1974 and a shift of one organization from an industrial ministry to an association. See your *Commercial Partners in Romania 1973* and *The Economic and Commercial Guide to Romania 1974*.

a tendency to import, including turning some export organizations, even mixed commercial companies abroad, into import organizations. He concluded by stating that the measures for "decentralization" of foreign trade, while in general having a good response, had become distorted. Some foreign trade enterprises were poorly managed and some others were competing with each other. There were too many organizations having the right to conclude contracts and undertake trade. He then urged the ministry of foreign trade to increase its control over trade activities and indicated that the decision had been made (a) to concentrate trade organizations by reduction in their numbers by around forty percent and (b) to increase the number of organizations subordinate to the foreign trade ministry.<sup>31</sup>

The official acts providing for these changes have not been published, but the resulting changes were presented in the foreign trade guide for 1975.<sup>32</sup> As shown in Table 1, the number of trade organizations (in commodity trade) were reduced to 40, a somewhat smaller reduction than indicated by Ceausescu. Moreover, only two more organizations specializing in commodity trade were shifted to the ministry of foreign trade, giving it a total of four. By this time, only four specialized foreign trade organizations remained subordinate to the associations.

Ceausescu's 1975 speech to foreign trade personnel implied greater concern and probable centralization of foreign activities. He specifically stated that, "The correct development of our foreign trade demands that *every economic ministry, every minister, will follow daily* the way in which production for exports is realized, will assure tight control of imports, and will take every measure to ensure in the best way fulfillment of accords and understandings for production cooperation with other countries." Furthermore, he emphasized the "complete" responsibility of the Ministry of Foreign Trade for the development of all trade activities, saying "I believe that, from this point of view, the Ministry can not complain that it doesn't know what it has to do, that it doesn't have clear attributions, or that legislation doesn't give it enough power to fulfill its responsibilities." These remarks seem to leave little doubt but that Romania had returned to a highly centralized system of foreign trade decision making, although a system that differed from the pre-1969 system in demanding greater participation of the producing organizations.

Before discussing why Romania recentralized, one other very important development in its foreign trade system must be mentioned. As already noted, it has been a common tendency for the CPE's to emphasize "economic" or "industrial cooperation" in place of classic trade. But in Romania, the emphasis is especially great as witnessed, among others, by its reputation for insisting upon compensation arrangements in paying for Western machinery imports, and by its leadership in developing joint venture laws and promoting joint venture companies, both in Romania and abroad. In the speech discussed above, Ceausescu emphasized that ". . . today the number one problem of international relations is economic collaboration. Any other way of thinking or of understanding the matter is mistaken,

<sup>31</sup> N. Ceausescu, *Cuvintare la Constatarea cu activul de partid si de stat din domeniul comerului exterior si cooperatiile economice internationale*. May 16, 1974.

<sup>32</sup> *Your commercial Partners in Romania, 1975*. (Bucharest, 1975).

inadequate". One senses that what Romanian leaders would like, in fact, is a wholesale substitution of "cooperation" or classical trade.

### *C. Possible Causes for Recentralization and Emphasis on Cooperation*

There has been a complex of interconnected causes, both economic and political-ideological, why Romania chose to recentralize trade decision-making and to emphasize cooperation over classical trade transactions.

The first cause for recentralization pressures relates to the volume of trade turnover necessary for an economically-sized trade organization. According to a United Nations estimate, in 1971 Romania had one of the largest number of foreign trade organizations in COMECON. Given its relatively low trade dependency, it also had a considerably lower than average trade turnover per organizational unit, in the case of manufactured goods the lowest turnover per unit in COMECON. The same study also suggested that the average trade volume of COMECON export organizations appeared to be of the same order as that of the largest Western export companies.<sup>33</sup>

The United Nations' calculations were based on 56 Romanian trade organizations. This seems to include only specialized foreign trade enterprises. As noted above, there is good reason to believe that in late 1951 and 1972 as many as 90-96 organizations were involved in direct trade, the difference being associations and large industrial enterprises that conducted trade through internal departments. Probably most of the latter were specialized in manufacturers, machinery and consumer goods. If so, the average Romanian trade turnover was possibly as low as one-half the UN estimate.

There is thus a good possibility, that the Rumanians had created too many foreign trade organizations to be profitable given the volume of trade. Moreover, quite apart from the optimal-sized organization unit, probably the fact that the Romanians could observe their comparative position among other socialist countries, must have caused concern that trade organizations were of sub-optimal size. In any case, a major reason for recentralization, given to the authors during interviews in Romania in 1975, was that in 1973 Ceaucescu had ordered all "unprofitable" organizations to be improved or discontinued. Hence, many unprofitable trade organizations were eliminated or merged with others.

A second problem, related to organizational structure, concerns the availability of foreign trade expertise. As seen in section II above, in any case when an organization is changed from the international division form to the global form, one would predict problems in providing product divisions with sufficient foreign trade expertise. In the case of changes in foreign trade organization of Soviet-type economies, these problems may be unusually severe for at least three reasons. First, relatively few persons were trained in foreign trade in the educational systems which emphasized engineering specialities for management personnel in general. Second, experience in foreign trade was very restricted under the orthodox foreign trade ministry monopoly. Third, for political reasons, foreign experts could not easily be integrated into the marketing system.

<sup>33</sup> United Nations Economic Commission for Europe, *Economic Bulletin for Europe*, Vol. 24, No. 1, pp 38-39.

Ceausescu recognized the problem of expertise in his speech to foreign trade personnel in February, 1967, by emphasizing the need for new programs to train persons in foreign trade. He said the chief institution of higher education in economics would have to start training students, not only in economic theory, but also in practical problems for foreign trade, and that short courses in trade should be organized for existing management personnel.<sup>34</sup> By 1970-71 class sizes in the foreign trade faculty were just under 200 students per year.<sup>35</sup> However, increased inputs into the management system from higher education could increase the supply of experienced managers only after a long period. The immediate problem was suggested by an article published in late 1970 which said that among all persons with higher education working in foreign trade, only 10% had studied in the foreign trade faculty.<sup>36</sup>

Following Ceausescu's suggestion, an immediate effort was made to increase the expertise of existing personnel by organizing short courses at educational institutions and by popularizing the subject of marketing. These activities were stepped up in 1970 and have continued in diverse ways since. For example, beginning in 1970 it was announced that the economics academy would organize night courses and also special day courses of 10-45 days duration for personnel temporarily released from work duties.<sup>37</sup> By 1971/1972 special correspondence programs in foreign trade lasting two years were established for persons already graduated in higher education, but who wanted a second specialty in foreign trade. In 1973 total enrollment in these programs was 392, or an average of nearly 200 per year, only slightly less than the output of normal four-year programs. In 1971/72 intensive courses of 3 months duration were also established for persons already from production. In the first two years 130 persons took such courses and in 1973 enrollments were set at 60-80 persons.<sup>38</sup>

Formal courses in marketing, with sections on foreign trade, were also included in the 1971 program of CEPCA, the specialized management training institute organized with cooperation of the International Labor Organization.<sup>39</sup> Enrollments in the marketing program for 1971 was set at 60 persons which included specialists in both domestic and foreign trade.<sup>40</sup>

<sup>34</sup> A small section for foreign trade existed in the faculty of commerce of the chief institutions for higher economics education, The "V. I. Lenin" Institute of Economics of Bucharest, in 1964 (See C. Donescu-Bjuor, *Higher Education in Romania*. (Meridiane Publishing House, Bucharest 1964, p. 53.) It was expanded as part of a general reorganization of the institution in 1968 when its name was changed to the present name of "The Academy of Economic Studies". (See Academia de Studii Economice, *Anuarul, 1966-1969*, Bucharest, n.d. pp. 71-73). In 1972 foreign trade was raised to the status of a separate faculty, and in 1973 as a result of the new emphasis on cooperation, explained above, its name was changed to the faculty of "International Economic Relations". (Interview data).

<sup>35</sup> A total of 774 students spread over class years I-IV, while in 1973 enrollments had increased to 909, or 227 per year and long term requirements based on demands from economic agencies were estimated to be about 250 graduates per year. It is also interesting to note that annual requirements for years 1976-1980 from economic agencies fell about 20-25% between 1972 and 1973, probably reflecting recentralization measures into the latter year. Data for 1970-71 presented in Marvin R. Jackson, "Economic Research and Education in Romania", *The ACES Bulletin* Fall, 1972, pp. 4-6, and other data from interviews in 1974.

<sup>36</sup> *Viata Economica* 1970:40 (October 2) p. 9. This article did not indicate the total number of personnel with higher education in the foreign trade sector so the stock-flow relationship is difficult to measure. It did say that in Bucharest, where 90 percent of foreign trade personnel were concentrated, there were over 12,000 foreign trade personnel, a figure which probably included persons of all educational attainments and specialties.

<sup>37</sup> *Viata Economica*, 1970:40 (October 2) p.9.

<sup>38</sup> Interview data.

<sup>39</sup> For a fuller description of CEPECA, see Jackson, "Economic Research and Education in Romania", *The ACES Bulletin*, Fall, 1972.

<sup>40</sup> Ministry of Labour, Central Institute for the Study of Problems in Economic Management and Labour Organization and for the Further Development of Management, Management Development Center, *Outline of the 1971 Program* (Bucharest, 1970), pp. 12 and 44-46.

Finally, sometime after 1971 there was also established the "Center for Training and Perfecting of Personnel Working in Foreign Trade and International Corporation" under the Ministry of Foreign Trade. The Center provided courses from 5 days up to 4½ months duration. Unfortunately, enrollments of Center were not available.<sup>41</sup>

Thus, the annual output rate of educational programs in foreign trade around 1972 can be estimated at about 200 persons in normal four-year higher education, 200 persons in two-year (second specialty) programs, and 150-350 persons in short courses. Assuming there were about 13,300 persons involved in foreign trade of whom 90 percent, or about 12,000 did not have specialized foreign trade education, it would take 16 years or more to educate them at the given annual rate. Or, assuming there were 90 foreign trade organizations (internal units and independent enterprises), the average employment would be about 148 persons. The average number of newly trained specialists per year per organization would be only 6-7 persons. The educational effort does not appear sufficient when viewed in these terms.

In spite of these efforts, and probably as one would expect given the initial starting point, occasional comments in the economic literature of 1971 suggests the associations and enterprises were having difficulties handling their new assignments due to a lack of trained personnel in international marketing.<sup>42</sup>

In an effort to remedy the problem, beginning January 1, 1972, the associations and the enterprises were ordered to establish marketing bureaus, in addition to their operative trade directorates which were responsible for the dispatch of export deliveries and, in some cases, for negotiating export contracts.<sup>43</sup> In September, 1972 an investigation of the marketing bureaus was published in *Viata Economica*.<sup>44</sup> The results were somewhat contradictory. On the one hand, it showed that associations which conducted trade through their own subordinate import-export directorates were taking a more serious effort to organize marketing in its product, price, promotion and distribution dimensions. The foreign trade enterprises, however, were described as approaching the problem "formally" by assigning marketing to an existing section where the chief concern was physical distribution.

On the other hand, (a) many of the associations had only engineers assigned to marketing, (b) only 20% of the time was used for marketing proper while 40% was used for statistical reports and 30% for physical dispatching, (c) only 25% of the associations undertook their own marketing studies while 30% relied on the International Marketing Institute of the ministry of foreign trade and the Institute of Economic Research of the Academy of Social and Political Sciences and the remaining 45% had none, (d) the usual form of research was to compile files from trade publications, and (e) while most respondents indicated an appreciation for the publications of the International Marketing Institute and the Chamber of Commerce, these were considered too general and most associations considered the best information was that gained by their delegations sent abroad.

<sup>41</sup> Interview material.

<sup>42</sup> *Viata Economica*, 1971:5 (Jan. 29) p. 5; 1971:24 (June 11) p. 4; 1972:7 (February 18) p. 8; and 1972:26 (June 30) pp. 14-15.

<sup>43</sup> *Viata Economica*, 1972:25 (June 30) pp. 14-15. A later issue, 1972:39 (September 29), p. 13, indicated that the campaign to popularize marketing started about a year earlier was moving slowly.

<sup>44</sup> *Viata Economica*, 1972:39 (September 29) p. 13. Marketing bureaus also were organized in ministries, sometimes under the directorate for import-export and sometimes under directorate for development.

Later in the year, at a round-table on foreign trade,<sup>45</sup> an official from the Ministry of Foreign Trade complained that the organization of marketing at the associations and the enterprises "is timid and far from satisfactory". Marketing was often assigned to persons considered inept for negotiating in the operational sections and normally only consisted of (1) obtaining import licenses from the Ministry of Foreign Trade, (2) organizing the details for participation in fairs or international expositions, or (3) preparing some simple notes from statistical sources or translating items from the foreign press.

The problem of expertise at the associations and enterprises had another broader and perhaps more important facet. For the acquisition of foreign market expertise, it was obviously not enough to have persons formally educated in trade procedures and characteristics of foreign markets and to have access to reports and publications on current market conditions. Any western company would consider as foolhardy efforts to sell industrial equipment or manufactured consumer goods without direct contact with customers and direct knowledge of the customer's environment. In this respect the Eastern European economies suffer a distinct disadvantage from their past isolation from international markets. While the situation now varies somewhat from country to country, there is no reason to doubt that their relative disadvantage continues as a result of (1) balance of payments pressures which limit expenditures abroad, (2) general anti-commercial attitudes, (3) political concern about contacts with western life, and (4) a tendency to extend contacts principally in highly organized or formalistic ways through commercial offices, trade fairs and official delegations. As a result there has been a tendency for the focus in East-West Trade to shift to the eastern capitals, especially so in the case of eastern imports, but also with exports. Consequently, very few eastern trade personnel have had extensive direct market contact, although more have had short visits as part of delegations. For the remainder, including managers of plants producing exports, contact is second hand through trade and technical literature, commercial office and trade delegation reports, and visiting foreign businessmen.

Romania, while having a greater relative share of its trade with the West, appears not to have expertise because of its restrictive policies with respect to foreign travel and contacts with foreigners.

Apparent recognition of the need for more contact with foreign markets was contained in the March 1971 trade law. The associations were given rights, in principle, to send abroad commercial agents and to establish in foreign countries commercial and technical bureaus, warehouses, service centers and exhibition centers. It seems that such efforts were taken seriously, for in 1972, an official of the foreign trade ministry stated that the Party leadership had told the ministries and association to prepare "a corps of 'travelling salesmen' (*viajori comerciali*) specialized by product and market who would facilitate the continuity of relations with foreign customers".<sup>46</sup>

Unfortunately there is no data to fully evaluate subsequent Romanian external marketing efforts. Moreover, it is clear that rights of the associations, or even the industrial ministries, to send permanent

<sup>45</sup> *Probleme economice*, 1973:2, p. 111. Also see 1972:12 pp. 95-104; and 1973:1 pp. 110-116 for other parts of the round table.

<sup>46</sup> *Probleme economice* (1972:7, p. 26).

agents abroad, to establish foreign facilities, or to organize joint-commercial companies abroad were subject to strict central control by the ministry of foreign trade and foreign affairs, if not also by the ministry of internal affairs. Without question, such rights were limited even in 1971 and 1972. In the early part of 1973, when the process of recentralization was underway, associations were complaining about their inability to develop better contacts. For example, an association director complained that its export promotion activities, "practically speaking", were restricted only to participation in fairs and conversation with foreign customers at the association.<sup>47</sup> Another said that the greatest need was to create better conditions for its specialists to know their major markets and to directly promote major products. He specifically suggested that it was time to stop the practice of sending abroad to fairs and exhibitions only one person to represent several associations because this person couldn't know separate product lines well enough.<sup>48</sup>

Recentralization by means of restrictions on the associations' rights to conduct trade directly apparently took place in 1973. *Viata Economica*, the weekly economic newspaper, appropriately opened the year with an interview article titled "Subordinate Import-Export Compartments or Specialized Enterprises?"<sup>49</sup> In this and subsequent publications, representatives of the specialized foreign trade enterprises claimed that they were more effective especially in cases of exports of (1) products produced by numerous enterprises in many foreign markets, and (2) complete factories or equipment complexes where many producers here involved. The same representatives, often complained about lack of producer incentives for exports and their own lack of information concerning production capacities and technical characteristics of products. Representatives of the associations, on the other hand, claimed that they had proved their superior ability to handle exporting directly and that they could do an even better job if given better marketing information, more and better trained marketing personnel, and more opportunities to contact buyers abroad. A mid-year investigation by *Viata Economica* of the reforms to bring producers closer to foreign markets was said to have "proved an insufficient fructification of the new system caused by a "too timid" exercise by some economic units of their prerogatives."<sup>50</sup> Yet the dilemma, as stated by the investigation, was that—

The foreign trade enterprise may know the opportunities and limits of foreign markets, but less of production. Inversely, the association may know the opportunities and restrictions of its technical and human potentials, but less those of the market.

One derives from these sources a clear feeling that there was a far from adequate connection to export producers with foreign markets and that a major problem in this regard was continuing inability of the associations to organize their own marketing efforts or to be coordinated with the marketing expertise of the specialized foreign trade enterprise.

The final and perhaps most compelling reason for the recentralization was the chaotic nature of the international economy in the early

<sup>47</sup> *Viata Economica* 1973:12 (March 23).

<sup>48</sup> *Viata Economica* 1973:4 (Jan. 26) p. 14.

<sup>49</sup> *Viata Economica* 1973:4 (January 26) and 1973:6 (February 9).

<sup>50</sup> *Viata Economica*, 1973:18 (May 4) p. 8. Also see *Viata Economica*, 1973:12 (March 23) p. 7; 1973:15 (April 13) p. 4; 1973:16 (April 20) p. 8; 1973:19 (May 11) p. 8; 1973:28 (July 13) p. 2; and *Probleme economice* 1973:1, pp. 112 and 115-6; 1973:2, p. 111 and 113; and 1973:5, p. 97.

1970's. As was pointed out in Section II, one of the characteristics of the global form of organization is that response to international events is automatic and within the ambit of the decision-making powers of lower level units. Obviously such flexibility on the part of associations and ministries is at odds with a strict interpretation of central planning for the domestic economy. However, the Romanian leadership may have been willing to permit economic units flexibility to make the kind of marginal responses which the stability of western currency and commodity markets would have required in the 1960's in exchange for improved export performance.

However, the conditions which the new foreign trade organizations faced on world markets in the early 1970's in no way resembled the placid 1960's. Western markets were beset by the devaluation of the dollar, the collapse of the Bretton Woods system and the floating of the major western currencies. Commodity markets were wracked by shortages and rapidly escalating prices and double digit inflation was common in many of Romania's major western trade partners. These conditions had two consequences. First, the new foreign trade organizations, inexperienced and understaffed, would no doubt have experienced difficulties while learning how to conduct trade under the best of conditions; under the conditions of the 1970's, when even major western banks and experienced multinational firms reeled in confusion, the task of effectively penetrating western markets was beyond the expertise of most Romanian foreign trade organizations.

Secondly, the magnitude of the domestic responses implied by changes in international markets were sweeping, not marginal. Clearly such responses by the associations would have upset domestic planning, imported inflation into Romania, and vitiated any effort by the government to maintain control over the balance of payments. Indeed it is likely that the international division form of organization by buffering domestic activities from external events and emphasizing conscious centralized response to external shocks appeared as the most viable and appropriate organization to the Romanian leadership.

#### IV. CONCLUSIONS

Our analysis suggests that the decentralization of Romanian foreign trade activities was a properly conceived organizational response to the needs of Romania's international strategy of increased trade with the west and of expanded exports of manufactured goods. However, the decentralization was not successful and was eventually abandoned due to internal shortcomings including the inability to provide skilled personnel to operate the new organizations and because of the hostile external environment which greeted the new organizations.

Despite the recentralization, Romania does not appear to have abandoned its foreign trade strategies. However, because the current centralized organization does not appear to be appropriate for this strategy, we anticipate that either strategy or organization or both will be subject to further experimentation. One possibility, alluded to in Section III is the possible use of cooperation to overcome the defects of the current organizational form. Whether cooperation can fulfill these hopes or not is, however, a question only the future can decide.

# COUNTERTRADE PRACTICES IN EASTERN EUROPE

BY JENELLE MATHESON, PAUL MCCARTHY, AND STEVEN FLANDERS\*

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\*It should be understood that the views expressed in this paper are those of the authors and do not necessarily represent the position of the Department of Commerce, JEC, or the U.S. Government.

## I. INTRODUCTION

Since the early 1970's hard currency shortages have limited the ability of the East European<sup>1</sup> countries to purchase Western plant, equipment, and technology.<sup>2</sup> In order to accommodate increasing demands for continuous large-scale, long-term infusions of Western, technology and management techniques, the East European countries use of various forms of countertrade in their commercial dealings with the West began to proliferate.

This paper will discuss: the meaning of the term "countertrade"; the motivations of communist countries and Western firms to engage in this form of trade; the extent of current Eastern European activity in countertrade with the West; and the prospects for its future use. Countertrade is a relatively new development in East-West trade, and although this paper cannot adequately treat every aspect of this complex subject, it attempts to provide a better understanding of countertrade as an important component of the East-West commercial relationship.

## II. DEFINITIONS

Countertrade is a technique of international trade increasingly used by the countries of Eastern Europe in their commercial dealings with the West. While the technique has several objectives, it is primarily a device to enable the communist countries to better cope with their persistent shortages of hard currency, a problem that stems from a significant deficit in their trade with the West over recent years.

Countertrade is generally understood to mean a set of transactions wherein the hard currency claim on a communist country resulting from an import from the West is offset by a complementary or balancing Western purchase of Eastern products. In most countertrade transactions (the exception is barter) the Western good is not directly paid for by the Eastern good. Rather, the Western export is financed partially or in full by Western credit on a contract denominated in hard currency, while the subsequent Eastern exports, under a separate contract, generate hard currency that can be used to make payments against Western credits.

A commercial activity closely related to countertrade is "industrial cooperation". As the phenomenon of industrial cooperation has evolved in an East-West trade context it has gone through many definitional changes. However, as the communist countries view it, industrial cooperation is generally understood to denote the economic relationships and activities arising from contracts extending over a long time period (typically five to ten years) between partners belonging to different economic systems, providing for reciprocal transfer of one or more commercial assets (such as technology, know-how, capital, products, marketing and services), to meet specific objectives of the contracting parties. This relationship is usually one in which the Western partner has no equity interest (currently, only Romania, Hungary and Poland permit joint equity investment and joint management).

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<sup>1</sup> The terms Eastern Europe and communist countries are used interchangeably. For the purposes of this paper the countries included are: Bulgaria, Czechoslovakia, G.D.R., Hungary, Poland, Romania, and U.S.S.R.

<sup>2</sup> Technology in the context of this study refers to both embodied and disembodied technology. The former is technology incorporated in machinery and equipment. The latter is technology existing as written data such as technical manuals and blueprints, know-how, managerial skills, and training.

The Eastern European countries identify East-West industrial cooperation primarily with production cooperation, together with certain activities either preceding or following the production process itself. Activities preceding production principally comprise licensing, joint research and development, exchange of information, and supply of complete plants and/or equipment, while those following the production process are normally limited to marketing and after-sales service. In addition, the Western partner may also commit its trademark rights.

Most of the Western technology/equipment purchased by the Eastern European countries under industrial cooperation agreements is financed by Western credit. In order to repay that credit, the Eastern countries must generate hard currency through exporting. Hence, a cooperation agreement also frequently contains a financing element, namely a provision for purchase by the Western partner of goods from the Eastern partner. This financing element is countertrade.

Currently, the payment in product effected under a cooperation agreement does not necessarily refer only to products derived from the plant or equipment supplied by the Western partner (resultant product). However, the communist countries' perception of cooperation seems to be evolving toward an understanding of cooperation as an activity which always involves payment in resultant products. Since this is still only a goal, and since many cooperation agreements do in fact entail payment in non-resultant as well as resultant product, the cooperation agreements discussed in this paper involve payment in both kinds of products, unless otherwise specified.

Countertrade is a heterogeneous class covering a variety of forms and its nature may be better understood if each of its forms is set out in detail. Countertrade normally occurs in one of three forms—barter, counterpurchase, or compensation arrangements (also known as buyback or product payback).

#### A. Barter

A barter transaction is often thought of as the direct exchange of goods for an equal value of goods between an Eastern European and a Western partner, without any flow of money taking place. Because such pure transactions are rare, many feel that a barter transaction is better characterized by the following:

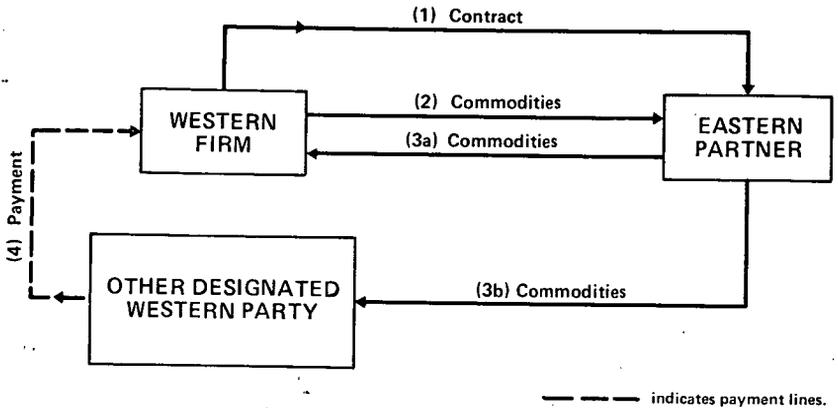
1. It is a one-time transaction rather than an on-going, dynamic relationship.
2. It takes place over a relatively short time (e.g., up to two years). Hence, there is no, or relatively little, time-lag between deliveries of goods by the two trading partners.
3. The Eastern goods to be purchased are specified at the time the Western export contract is signed.
4. Normally, only one contract is involved (covering both sale of Western products and purchase of Eastern products).

Barter is the most seldom used form of countertrade. Figure 1 presents an analytic illustration of a barter transaction scenario.

#### B. Counterpurchase

A counterpurchase transaction is one in which a Western seller provides an Eastern buyer with technology, plant or equipment and

Figure 1  
Analytic Model of a Barter Transaction



*Scenario of Transaction*

- (1). Western firm contracts with Eastern partner for the exchange of mutually desired commodities.
- (2). Western firm delivers commodities to Eastern partner.
- (3). As payment for Western imports, Eastern partner delivers commodities to:
  - (a) Western firm or
  - (b) Other designated Western party.
- (4). If Eastern commodities are delivered to a third party firm, Western firm receives payment from that designated Western party.

agrees to purchase Eastern goods equal to an agreed-upon percentage of the sales contract value. A counterpurchase transaction involves two separate, but inherently linked contracts—one for the sale of Western products and a second for the purchase of Eastern products.

Credit is an integral part of this form of countertrade, since the Eastern purchase of Western goods is normally effected with the use of Western credits. The Western purchase of Eastern goods generates hard currency used by the Eastern partner to repay part or all of the Western credits.

The value of Eastern goods offered as counterdeliveries is generally less than 100% of the original sales contract value. The goods are normally "non-resultant products", i.e., they are not derived from or related to the Western export of technology, plant or equipment. In addition, the Eastern products are generally manufactured or semi-manufactured goods, although raw materials may be provided (notably in the case of Poland). The Eastern goods may be supplied by the original Eastern importing organization, or by another Eastern foreign trade organization (FTO).

Whereas a barter transaction rarely occurs in the context of an industrial cooperation agreement between a Western firm and an Eastern partner, counterpurchase transactions may be involved in such agreements. The exchange of goods under such an arrangement normally takes place over a relatively longer time period (i.e. three to five years) than is the case in a barter transaction. Under a counterpurchase agreement, the Western purchasing commitment may be transferred to a third party—a Western trading house, another Western buyer, or a non-Western buyer.

The scenario of a counterpurchase transaction is presented in Figure 2.

There are two forms of counterpurchase which are mainly distinguished by the method of payment used for the Western export. One form provides that each partner receives full cash payment at the time he makes delivery. In such instances, the Western partner receives immediate payment for his export (usually from a Western lending institution) and the Eastern partner must commit hard currency equal to the total value of the Western import. This is the most frequently used form of countertrade. In terms of dollar value of total trade conducted under such agreements, however, it is not as important as compensation arrangements which will be discussed later.

Under the second type of counterpurchase the Western partner receives only partial payment in cash and part in product although the Eastern partner again receives full cash payment for his deliveries. Thus, receipt of full payment for the Western export is, in effect, deferred until the Western firm finds a buyer for the Eastern goods. Moreover, under this type of agreement, the communist country is required to commit less hard currency than in the former case.

### *C. Compensation Arrangements (also known as buyback and product payback)*

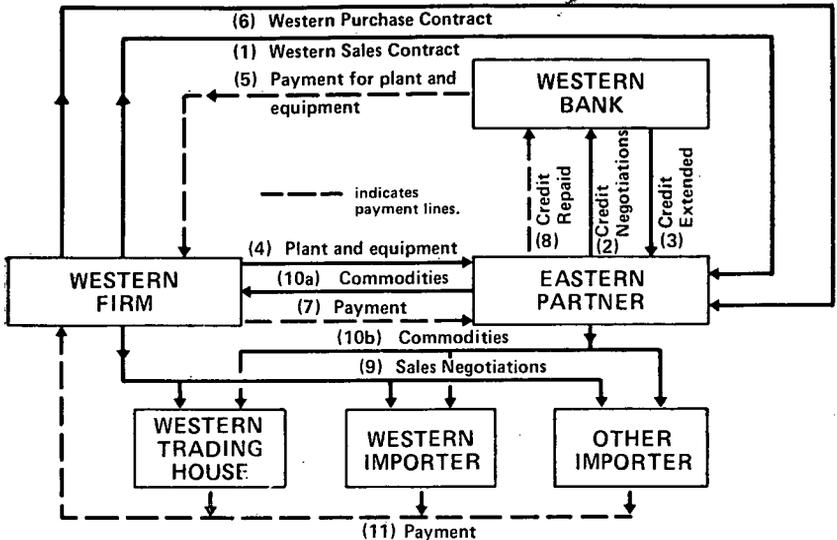
Compensation arrangements involve two separate, but inherently linked, contracts providing for the sale by a Western firm of technology, plant, or equipment and the reciprocal purchase by the Western firm of Eastern goods.

As in the case of the first type of counterpurchase discussed earlier, both the Western and Eastern partners receive full payment in cash for their exports at the time of delivery. As in counterpurchase, the Western purchasing commitment may be transferred to a third party.

Compensation arrangements are distinguished from counterpurchase by these characteristics:

1. The dollar values involved in compensation transactions are usually much larger than those of counterpurchase transactions.
2. Compensation arrangements generally take place over a much longer period, e.g., 10 to 20 years.
3. The Western partner usually purchases resultant products, i.e., products derived directly from, or produced by the Western-supplied technology, plant, or equipment. Thus, there is often a much greater time lag between reciprocal deliveries than is the case with counterpurchase or barter.

Figure 2  
Analytic Model of a Counterpurchase Transaction



The steps illustrated in this model do not necessarily occur in the sequence presented. Some, in fact, often occur simultaneously or in a different order than that presented. Each step is, however, an element of the complete transaction.

#### Scenario of Transaction

- (1). Western firm contracts for the sale of plant and equipment to the Eastern partner.
- (2). Eastern partner negotiates with Western bank for credits with which to purchase Western plant and equipment.
- (3). Western bank extends credits to the Eastern partner.
- (4). Western firm delivers commodities to Eastern partner.
- (5). Western bank makes payment (either full or partial depending upon the type of counterpurchase arrangement involved) to the Western firm for deliveries.
- (6). Western firm contracts with Eastern partner for the purchase of Eastern commodities.
- (7). Western firm pays Eastern partner for commodities.
- (8). Eastern firm repays Western credits.
- (9). If the Western firm cannot use or sell the Eastern commodities, it may negotiate directly with a Western or other firm or with a Western trading house which will handle the sale of the Eastern products.
- (10). Eastern firm delivers commodities to either
  - (a) Western partner or
  - (b) Other designated Western party
- (11). Western firm receives payment either directly from Western or other importer or from Western trading house.

4. The cumulative value of Western purchases over life of the long-term contract is often equal to, or greater than, the value of the Western export contract.

Compensation arrangements are the most rapidly growing form of countertrade, although they presently account for only a small portion of the total East-West trade. A schematic presentation of a compensation agreement is illustrated in Figure 3.

A variation of this form of countertrade involves the purchase by the Western partner of both resultant and non-resultant products, though resultant products usually comprise the bulk of the buyback commitment. Prior to signing a purchase contract for non-resultant products, the Western entity often can negotiate with another Eastern FTO for products which are not under the jurisdiction of the importing Eastern partner. Once suitable products are found, the Western partner contracts with the original Eastern partner, whether the goods come from the original Eastern partner or from another Eastern entity.

### III. EASTERN EUROPEAN MOTIVATIONS FOR COUNTERTRADE

Over recent years, communist country hard currency imports have consistently exceeded their hard currency export earnings. This gap is expected to continue for most of the Eastern European countries for the remainder of the current decade. Although the resulting deficits have historically been covered in large measure by Western credits, such credits have become more difficult to obtain. Thus, the capability of the communist countries to earn hard currency is a key factor in achieving high levels of East-West commercial exchanges.

In this context, countertrade is seen by the Eastern European countries as an instrument for overcoming some fundamental trade and financing problems, both short- and long-term. More specifically, the communist country motivations for participation in countertrade fall into four categories:

1. Balance of payments.
2. Market penetration.
3. Foreign trade planning.
4. Technology updating.

#### *A. Balance of Payments*

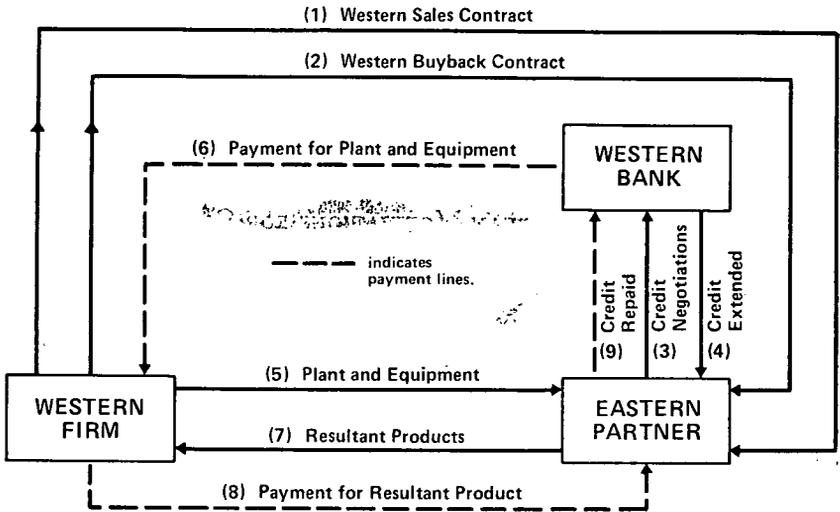
The reciprocal deliveries provisions of a countertrade agreement and the increasing demands made by the East Europeans for such transactions as a condition for Western firms doing business in the East, are indicative of the severity of the Eastern debt and balance of payments problems. By obtaining a commitment from Western firms to purchase Eastern products as part of the transaction, the communist countries are hoping, in the short-term, to relieve their immediate balance of payments problems in trade with the West.

#### *B. Market Penetration*

Countertrade, as it is now being practiced, has a major role to play in realizing the Eastern goal of gaining access to Western markets. While this argument should in no way minimize the significance of the

offset deliveries aspect of countertrade in dealing with the Eastern countries' immediate balance of payments problem, the use of countertrade as a device to achieve longer-term market penetration is equally important.

Figure 3  
Analytic Model of a Compensation Agreement



The steps illustrated in this model do not necessarily occur in the sequence presented. Some, in fact, often occur simultaneously or in a different order than that presented. Each step is, however, an element in the complete transaction.

#### Scenario of Transaction

- (1). Western firm contracts to sell plant and equipment to an Eastern partner.
- (2). Western firm contracts to purchase some of the plant output (resultant product) once production has begun.
- (3). Eastern partner negotiates with Western bank for credits with which to purchase Western plant and equipment.
- (4). Western bank extends purchase credits to Eastern partner.
- (5). Western firm delivers plant and equipment to Eastern partner.
- (6). Western bank pays Western firm for deliveries.
- (7). When production has begun, Eastern partner delivers part of the output to the Western firm.
- (8). Western firm pays Eastern partner for deliveries of product.
- (9). Eastern partner repays Western bank credit.

The communist country hard currency trade deficits are, in large measure, a reflection of their inability to effectively penetrate Western markets. General inexperience with Western marketing, together with quality, style, service, and other problems in their manufactured goods, have handicapped their hard currency export efforts. Frequently, even in the case of raw materials exports, they have found themselves in the position of a residual supplier, and consequently particularly vulnerable to the vagaries of Western business cycles.

To the extent that it establishes a program of assured long-term deliveries of products to a Western market, countertrade accomplishes market penetration and development in several ways:

It "smooths out" sales to the West, avoiding or minimizing the fluctuations to which a residual supplier is most subject.

It provides an opportunity to establish the reliability of Eastern suppliers.

It offers an opportunity to learn about Western marketing techniques.

It may foster improvement of the quality of Eastern finished goods.

### *C. Foreign Trade Planning*

Soviet and Eastern European planners face many uncertainties in projecting future trade balances and financing requirements in their trade with the West. Countertrade transactions with their self-liquidating aspects and specified Western purchase commitments serve to eliminate or reduce uncertainty regarding hard currency income.

Ambitious Soviet investment plans for Siberia, for example, will require the hard-currency income provided by countertrade deals. All the areas listed in the tenth Five-Year Plan as targeted for development in Siberia are represented in actual or proposed countertrade deals between Western firms and the U.S.S.R.

Self-liquidating features of countertrade arrangements are also important for smaller undertakings; the central planners are more likely to include projects in five and one-year plans, or to subsequently approve ad hoc projects not included in the plan, if the projects include return product flows to offset hard currency costs.

Given the excess of communist country import needs over their export capabilities, any hard currency earnings which exceed the financing requirements of the project can be readily applied to other purchases. The very large Soviet and Polish natural resource development transactions typically program offset deliveries to the West which, over time, will significantly exceed principal and interest payments on the credit for the original Eastern import. This is also the case in the Steyr-Daimler-Puch agreement with Poland, and the Katy Industries and Snia Viscosa agreements with Hungary. (See Appendix Tables 3 and 4.) The surplus hard currency earned via these transactions can be used for additional imports from the West which otherwise would require Western credits, or which might have to be deferred or foregone altogether.

### *D. Technology Updates*

Some countertrade agreements specifically provide for a continual updating of technology provided by the Western partner. Agreements

involving production of manufactured goods tend to reinforce technology updates by giving the Western partner a vested interest in the end product. For example, where a Western partner seeks lower cost factors of production in imports from the East, he may be motivated to continuously update technology to obtain the lower cost product from the Eastern source. Similarly, where the Western partner obligates himself to a long-term arrangement to accept manufactured goods that are made obsolete by style or technology changes, he has an interest in a continued updating of the technology furnished the Eastern partner.

A related benefit for the Eastern European countries is the productivity improvement resulting from Western help in producing high quality manufactures. Such improvements in turn may enhance the profitability of marketing operations in Eastern Europe or third world areas which are not covered by the countertrade agreement.

Some advantages and disadvantages of countertrade, as perceived by the communist countries, are presented in Table I.

TABLE I.—*Eastern European perceived advantages and disadvantages of countertrade*

ADVANTAGES	DISADVANTAGES
1. <i>Aid in Improving Balance of Payments.</i>	FTO must be prepared to deal with Western firms' resistance to countertrade demands. With limited demand for many Eastern products in the West, Western firms may prefer cash payments.
2. <i>Vehicle for Penetration of Western Markets.</i> Countertrade provides Eastern goods access to Western markets through offset deliveries provisions of contract.	Eastern countries have been pushing for the inclusion of Western purchase commitment. However, Western firms have offered strong resistance to this tactic.
3. <i>Foreign Trade Planning.</i> Self-liquidating aspects of countertrade may eliminate or reduce uncertainty regarding hard currency income. Extra hard currency earnings from countertrade may be applied to other imports.	Western firms may be reluctant to purchase Eastern goods in excess of 100% of original export contract value.
4. <i>Technology Updates.</i> Countertrade has been an important part of the long-term connections that FTOs are seeking with Western firms for the purpose of obtaining updates of imported technology.	Demands for countertrade may threaten the success of contract negotiations unless particularly attractive Eastern goods are offered as part of the agreement. Western firms have been very reluctant to enter into long-term agreements which entail reciprocal purchases of goods for which there is less than a substantial demand in the West.
5. <i>Creation of Western Interest in the Efficiency and Quality of East European Products.</i> By accepting East European goods as payment for their goods and services, Western firms must be able to rely upon a standard of quality that is competitive with Western standards. From the Western point of view, the profitability of any countertrade agreement must depend in part upon the ability to sell the goods imported from Eastern Europe.	There is the risk of too great a degree of Western influence on the system of socialist production.

#### IV. WESTERN MOTIVATIONS FOR COUNTERTRADE

In the final analysis, Western firms engage in countertrade because they expect it to be profitable. More specifically, however, profits may accrue from one or more of several objectives potentially achievable through countertrade:

1. Access to the Eastern market.
2. Development of an Eastern long-term source of raw or semiprocessed materials.
3. Development of an Eastern source of lower-priced components or manufactured products.

In trade with other market economies Western firms usually accomplish these same "market access" and "raw material/component" objectives through the development of marketing outlets in the country concerned, through contracting directly with firms in the trading partner country and, increasingly, particularly where a long-term relationship seems desirable, through foreign direct investment, i.e., by creating a subsidiary plant and organization in the partner country. Each of these alternatives is, however, generally barred to Western firms in trade with centrally planned economies.

##### *A. Western Access to Eastern Markets*

Many Western firms see countertrade as a strategy to gain or hold markets from which they would be otherwise excluded. They often view the East European region and the U.S.S.R. as a large and relatively untapped market, with a more rapid growth potential than some other world areas. In describing the attractiveness of the Eastern market, an executive of a leading American multinational corporation said: "It is the comparatively big East European market potential, relative to the present degree and rate of industrialization as well as population and resources, that attracts (our) firm to the region and to individual East European countries".<sup>3</sup>

Countertrade may provide access to Eastern markets in several ways: First, for the Western exporter, the initial sale—usually considered the most difficult by Western businessmen dealing with the East—is a penetration of the market. Second, where the initial sale involves a transfer of technology, the Eastern customer may be "engineered" into a longer-term relationship with the Western supplier, generating a potential for additional or new technology and/or for subsequent orders for replacement parts and components beyond the Eastern manufacturing capability, but essential to the finished product.

In addition, countertrade agreements with one communist country may provide access to third country markets, due either to special marketing provisions or unique political/economic relationships. To date, however, there is no evidence that this has actually occurred.

<sup>3</sup> Paul Marer, Indiana University, International Development Institute, "The U.S. Perspective on East-West Industrial Cooperation," (Unpublished), May 1976.

And finally, a countertrade relationship may establish an approved presence in the Eastern market, including a wide range of contacts and information sources that frequently lead to other sales not directly related to the original contract.

### *B. Source of Raw or Semiprocessed Materials*

A further incentive for Western firms to countertrade is the acquisition of a reliable long-term source of raw materials or industrial supplies. This is particularly true of countertrade agreements with the U.S.S.R. and Poland, many of which involve raw material products. The U.S.S.R., unlike Eastern Europe, is especially rich in raw materials and has been willing to negotiate product payback from new natural resources projects, although in the past it has been generally unwilling to export output from existing production facilities. Access to Soviet raw materials is a major motivation for Western European and Japanese participation in Soviet compensation arrangements.

The worldwide shortage of several basic industrial raw materials, e.g., natural gas, in fact may have encouraged such arrangements, which provide guaranteed long-term supply. While many of the Eastern countries cannot offer raw materials as repayment for Western exports, in some instances, notably Poland and Romania, they may offer equally acceptable alternatives. Intermediate industrial products such as petroleum products, petrochemicals, and steel are prime examples.

### *C. Lower Cost Supply of Intermediate Products*

Finally, Western firms seeking relatively lower cost sources of supply for intermediate industrial supplies, manufactured components, and finished goods may be motivated to countertrade in Eastern Europe. Eastern negotiators may sometimes be willing to offer discounts of several percent from world prices to Western firms. In addition, Western firms may be able to take advantage of lower cost factors of production effected by relying on the Eastern partner for components, parts, or assembly of the finished product. While Western firms have some well-founded concerns about the adequacy of Eastern production capabilities, to the extent that countertrade deals can provide dependable, lower-cost supplies of industrial inputs or finished products, Western firms will find them attractive.

Some advantages and disadvantages of countertrade, as perceived by Western firms, are presented in Table II.

TABLE II.—*Western firms' perceived advantages and disadvantages of countertrade*

ADVANTAGES	DISADVANTAGES
1. <i>Market Penetration.</i> Eastern Europe and the U.S.S.R. are often viewed as a large and relatively untapped market, with a more rapid growth potential than other world areas. Countertrade may be the only means of penetrating this market.	The length of contract negotiations, (as much as two to three years), the size of the deals (especially those in Eastern Europe) and the prospective profits may be too small to justify the managerial effort required to consummate a countertrade deal.

TABLE II.—*Western firms' perceive advantages and disadvantages of countertrade*—Continued

ADVANTAGES	DISADVANTAGES
<p>2. <i>Western Business Cycle.</i> Countertrade with the East offers Western firms increased sales opportunities which may help to smooth out the effects of cyclical fluctuations in the world economy.</p>	<p>During Western recessionary periods, Eastern demands for countertrade are at their peak, (nearly 100 percent of the hard currency cost), thus making countertrade potentially less profitable and, therefore, less attractive.</p>
<p>3. <i>Product Life Cycle.</i> Especially in high technology industries, countertrade with Eastern Europe may become particularly attractive late in the life cycle of a product.</p>	<p>Eastern Europe is basically not a consumer market. It is increasingly a market for the sale of technology and know-how rather than the sale of components and finished products. Eastern European countries are interested in the latest technology available sometimes combined with stipulations for the continuous updating of the original technology. Failure to provide these may result in lost sales.</p>
<p>4. <i>Immediacy of Pre-emptive Threat by Competitors.</i> Countertrade may be considered by a Western firm as a negotiating technique, in response to some triggering event, e.g., competitive pressure or threat of loss of market to competitors.</p>	<p>East European countries may attempt to use Western inter-firm rivalry to their advantage by both driving down the cost of Western goods and increasing demands for larger offset purchase provisions.</p>
<p>5. <i>Secure Assured Supply of Raw Materials.</i> Many Western firms view countertrade as a vehicle for obtaining raw and semifinished materials which can be used in their own products.</p>	<p>Most communist countries (the exceptions are Poland and the U.S.S.R.) are increasingly reluctant to include Eastern raw materials as countertrade products. Vigorous demands for inclusion of Eastern manufactures as offset deliveries are being made.</p>
<p>6. <i>Reduce Production Cost.</i> Some Western firms are interested in countertrade as a means of taking advantage of low cost factors of production by relying on Eastern suppliers for components, parts, or assembly of the finished product.</p>	<p>Eastern manufactures are generally not suitable for sale in the West due to poor quality, design, packaging, service, and lack of brand name recognition. Some East European countries permit Western firms a voice in quality control, but the managerial effort required of a Western firm may make the countertrade deal unprofitable. Moreover, Eastern goods under such arrangements may be subject to anti-dumping or countervailing duty regulations.</p>
<p>7. <i>Access to Other Communist Country Markets.</i> A consideration of Western firms sometimes is an interest in using their market position in one Eastern country to gain access and leadership in other Eastern countries. Western firms may be more willing to enter countertrade deals than they otherwise would be in order to increase their chances of entering other markets.</p>	<p>The more Eastern countries in which a Western firm commits itself to pursuing countertrade deals the more complex negotiations, financing, contracts, and repurchase arrangements become. Moreover, there is no evidence that a firm's countertrade activity in one communist country necessarily facilitates its entry into other Eastern countries.</p>
<p>8. <i>Recover R&amp;D Costs of Technology Development.</i> Many Western firms do not consider Eastern Europe a significant market for their products. The sale of technology and know-how through countertrade is seen as an option to recover R&amp;D costs of the technology being sold.</p>	<p>The technology update provisions of most countertrade deals have the dual potential of eliminating the need for future imports of updated technology at some point, and creating a competitor.</p>

## V. EASTERN EUROPEAN PARTICIPATION IN COUNTERTRADE WITH THE INDUSTRIALIZED WEST

Nearly all of the Eastern European countries have practiced countertrade of one form or another since the mid-1960's. However, its use during the 1960's was relatively infrequent and, when applied, was perceived as being peripheral rather than essential to the main commercial activity.

In the early 1970's, however, the communist countries began to reappraise their policies concerning countertrade as they were forced to seek new ways of financing additional imports from the West. They increasingly came to view countertrade as an effective means of meeting their financing needs and, as a result, began to step up their efforts to promote such activities and to exert more and more pressure for countertrade on their Western partners.

Although this study attempts to deal with countertrade as a single concept, there are significant differences of approach as well as varying degrees of reliance on these arrangements among communist countries. The most important countries (excluding Yugoslavia), both in terms of extent of participation and volume of trade conducted via countertrade are the U.S.S.R., Poland, Hungary, and Romania—not necessarily in that order. Bulgaria lags somewhat behind, followed by Czechoslovakia and the German Democratic Republic (G.D.R.). A listing of reported countertrade transactions between the Eastern European countries (excluding the U.S.S.R.) and Western firms is found in Appendix Tables 1 thru 6. The list is by no means complete but does include many of the major countertrade transactions consummated within the last several years. Of the transactions included in the tables, 46 of the 75 countertrade contracts signed for Western plant, equipment or technology since 1974 have involved counterdeliveries of resultant products. This would appear to support the trend observed by Western firms dealing with the Eastern countries. Compensation arrangements are the fastest growing form of countertrade.

Because complete data on the number and value of countertrade transactions are unavailable, a comprehensive analysis of its impact on East-West trade is not possible. However, available data on one form of countertrade, namely compensation arrangements, as a device for financing industrial cooperation projects, indicate that compensation arrangements are developing rapidly and may impact significantly on the development of the East-West commercial relationship.

Based on a June 1976 survey of industrial cooperation activities undertaken by the Economic Commission for Europe (ECE) Committee on the Development of Trade,<sup>4</sup> the supply of plant and equipment or licensing (both with payment in resultant product) occurred in 28.8% and 24.8% respectively of all East-West cooperation agreements. In terms of participation by industrial sectors, it appears that there is a close relationship between licensing and supply of turnkey plants, and certain branches of industry. For example, licensing agreements are particularly common in the mechanical engineering

<sup>4</sup> United Nations Economic Commission for Europe, Committee on Development of Trade "A Statistical Outline of Recent Trends in Industrial Cooperation," Geneva, August 1976.

industry (23%), and the chemical industry (13.5%). On the other hand, agreements for the supply of plant and equipment, with payment in resultant product, are engaged in most often by the chemical industry (over 30%), metallurgy (15.1%), and light industry (11.6%). A country-by-country description of participation in countertrade with the West follows.

#### A. U.S.S.R.

In terms of the dollar volume of Western exports and projected return product flows, the Soviet Union is the most significant communist country participant in countertrade. Soviet participation to date has been almost exclusively limited to compensation arrangements. These usually involve large-scale Western exports for the development of the chemical and steel industries, with return product flows to the West of raw materials or semi-processed industrial supplies derived from the Western supplied installation. In general, the estimated value of such return shipments, over an extended period of time, will most likely exceed the value of the initial Western export.

There is evidence that Soviet planners will increase their reliance on compensation arrangements and they plan for such transactions to account for an increasing portion of Soviet trade with the West in the years ahead.<sup>5</sup>

#### B. Poland

In terms of the volume of trade generated through countertrade, Poland ranks as the second major communist country participant. Poland's interest in countertrade has expanded apace with its debt to the Industrialized West. While Polish countertrade demands presently average 25 to 30% of export contract value, they are expected to reach at least 50% by 1980.<sup>6</sup> Of course, as is the case with all other Eastern European countries, the percentage required is inversely proportional to the priority of the Western import. In compensation arrangements, the Poles generally seek Western purchases which will cover not only 100% of the original sales contract, but interest on the loan as well. The same policy is followed by the U.S.S.R. in compensation trade with the West.

Generally, Polish countertrade demand is greatest for sales of Western plant, technology, or equipment for the electronics and heavy equipment industries. Nearly all Polish purchases of Western electronics equipment require the purchase of goods equal to 10 to 50% of the contract value. Well over half of the heavy industrial equipment sales carry a repurchase requirement of 25 to 30% of contract value, while this figure varies from 15 to 20% for metallurgical machinery and equipment sales, to 25% for the chemical industry.<sup>7</sup>

<sup>5</sup> For a comprehensive discussion of Soviet countertrade practices see "Industrial Cooperation Agreements: Soviet Experience and Practice" by Maureen R. Smith in the *Soviet Economy in a New Perspective*, Joint Economic Committee, October 14, 1976.

<sup>6</sup> Business International S.A., Subsidiary of Business International Corp., New York, "Current Countertrade Policies and Practices in East-West Trade," multi-client supported research study completed November 1976.

<sup>7</sup> Business International, "Business Eastern Europe," October 8, 1976.

Polish goods offered as countertrade are not necessarily restricted to the foreign trade organization which purchased the Western technology, plant or equipment, although that is preferred.<sup>8</sup>

Countertrade transactions do not yet account for a substantial portion of Polish trade with any of its major trading partners in the West. However, they have been used in a growing number of transactions which can roughly be divided into three categories:

1. Major projects involving substantial Polish investment (a probable minimum of \$300 million per contract), with no equity participation by foreign partners. Contracts of this type have been negotiated in the automotive and construction equipment industries and the chemical industry. Ideally, such projects will be self-liquidating and will provide the Poles with at least indirect access to hard currency markets. Two examples of this are the Massey-Ferguson (U.K.) and Creusot-Loire (France) transactions.

The Massey-Ferguson contract with Poland, valued at \$350 million, was signed in 1974. Under terms of the contract, the Poles agreed to purchase equipment for their Ursus tractor plant. The U.K. firm agreed to repurchase Polish diesel engines and tractors over a five-year period (value unknown). Creusot-Loire, in 1976, contracted to supply Poland with \$360 million in equipment and technology for a chemical fertilizer plant. In return, the French firm agreed to market an unspecified portion of the output in a third country.

2. Long-term contracts of moderate value involving foreign supplies of technology and parts which are "repaid" through Polish deliveries of components or complete products. Typically, the percentage of parts furnished by the Western partner decreases over the life of the agreement, although it seldom falls below 50% of the total value of the parts required for each unit. These types of transactions comprise the majority of Polish countertrade activities. Two examples of this are agreements signed with Berliet of France and Westinghouse of the United States.

The 1972 agreement with Berliet of France to purchase licensing and parts for buses and coaches is valued at \$72 million. Under terms of the contract, Berliet agreed to purchase Polish automotive parts for use in its French operations.

An agreement was signed in 1974 with Westinghouse (U.S.) for the sale to Poland of licenses and equipment for semi-conductors and rectifiers valued at \$10 million. The Polish repayment was to be in semi-conductors and rectifiers.

3. Natural resource development projects. The Poles have borrowed substantial sums for copper and coal development projects against future deliveries of resultant product. Western firms are not involved in the extraction of these raw materials. However, according to available information, the loans extended to Poland are reputedly tied to purchases of Western equipment, which is to be used in the development projects. To date, six such agreements have been concluded with Austria, Belgium, France, Italy, the F.R.G., and the Netherlands.

<sup>8</sup> Business International S.A., op. cit., p. 1291.

Under a 1976 agreement signed with Italy, Poland will receive \$150 million in credit for expansion of its coal mining industry. The credits will be repaid with coal exports to Italy. Similarly, the F.R.G. in 1976 extended a \$125 million credit line to help Poland in its copper resources development program. In return, a West German consortium signed a 12-year accord to purchase 40,000 metric tons per year of electrolytic copper (cathodes and wire bars). Annual export value of the copper products is expected to range from \$67 million to \$82 million.

The Netherlands recently concluded a new 10-year agreement to import 750,000 tons of coking coal annually from Poland. The new agreement, replacing one set to expire in mid-1977, will mean annual Polish exports valued at \$45 million. It also provides for an \$85 million loan for the purchase of Dutch steel products to be used in developing the coal industry, as well as a \$50 million untied loan. The untied credit provision represents a unique arrangement for Holland.

In addition to these countertrade transactions, Poland recently entered into an interesting and somewhat unique countertrade project with Cementation International of the United Kingdom. Under terms of this contract, Poland will purchase an airline terminal complex to be built in Warsaw, valued at \$75 million. In return, Cementation International will purchase construction material from Poland, as well as \$35 million worth of Polish construction work on the British firm's contracts with third world nations.

Some additional examples of Poland's countertrade arrangements are presented in Appendix Table 1.

As might be expected, Poland's reliance on compensation arrangements as a device for financing its industrial cooperation projects with the West has grown along with its overall use of the countertrade mechanism. Licensing in exchange for products manufactured under the Western license accounted for over 27% of all such projects involving Polish and Western partners, according to the ECE.<sup>9</sup>

However, it is estimated that Polish goods (both resultant and non-resultant products) delivered as payment to the West under cooperation projects accounted for only slightly less than 2% of total Polish sales westward in 1975.<sup>10</sup> This share is considerably higher for Polish machinery and equipment exported in this context, which was estimated at 10% of total Polish exports to the West in 1974.<sup>11</sup>

In spite of the strides made in the use of this financing mechanism, the average value of Poland's export contracts under cooperation projects with the I.W. is still only about one-fifth that of its similar export contracts with the other communist countries. However, as the self-liquidating aspects of these projects make them more and more attractive, it seems likely that Poland's use of countertrade arrangements in conjunction with cooperation with the capitalist countries will continue to expand.

Expansion of countertrade with Poland during the remainder of this decade is likely to occur through industrial cooperation projects in several areas including:

<sup>9</sup> UNECE, *op. cit.* p. 1290.

<sup>10</sup> S. Pulawski, B. Sulimierski, "Handel Zagarniczny," No. 1, 1975 in Paul Marer, *op. cit.*, p. 1287.

<sup>11</sup> J. Zelislawski, "Zycie Gospodarze," No. 16 (1179), April 21, 1974 in Paul Marer-*op. cit.*, p. 1287.

*Lumber and pulp industry.*—The Poles are expanding this particular industry with emphasis on modernizing obsolete plants. In addition to seeking sawmill and wood processing equipment and wood treatment centers, Poland plans to construct three new forestry equipment plants.

*Tire industry.*—With the goal of attaining self-sufficiency in tire production within the next few years, the Poles are attempting to modernize existing facilities via imports of Western technology and equipment. Of special interest is modern technology for inner tube and radial truck tire production.

Other areas which will most likely see an increase in countertrade will include the construction, food processing, petrochemical, metallurgy, and copper development industries.

### *C. Hungary*

As is the case with Poland and the other communist countries, Hungarian pressure on Western firms for countertrade depends almost entirely on the nature of the Western import and the strength of the Western and Eastern bargaining positions. Generally, imports for which hard currency has been allocated are typically free from a countertrade commitment. Imports not in the plan, on the other hand, normally require 100% counterdeliveries of Hungarian products to finance their purchase.<sup>12</sup> Western firms' attempts to locate suitable goods, however, are hampered by the rather strict Hungarian practice of restricting purchases of Eastern goods to the original importing FTO.<sup>13</sup>

Hungary is probably the second most active Eastern European country in its use of countertrade. In terms of numbers of countertrade transactions undertaken with Western firms and their value, however, Hungary is still substantially behind Poland. (See Appendix Table 2.) As indicated by the agreements listed in the table, most of Hungary's countertrade transactions involve the purchase of Western licenses, know-how and equipment with payment in resultant product. For example Katy Industries (U.S.) under a 1976 contract will supply \$3.2 million of equipment, management and know-how for the manufacture of women's shoes and will repurchase \$66 million of women's shoes from Hungary.

Generally, the total value of goods exchanged in Hungarian countertrade transactions is much less than is the case with similar Polish agreements, ranging from a low of \$5.8 million in total two-way trade to a high of \$100 million in two-way trade.

At the lower end of this value spectrum, Tokai Metals Co., of Japan contracted in 1977 to supply Hungary with \$4 million worth of equipment for manufacturing aluminum foil. In exchange, the Japanese firm committed itself to purchase \$1.8 million worth of aluminum foil over a six-year period. The largest transaction, on the other hand, was an agreement between Steiger (U.S.) and the Hungarian enterprise Raba, wherein Steiger will provide technology and components for the manufacture of tractors and will purchase from Hungary

<sup>12</sup> Business International, "Business Eastern Europe," October 22, 1976.

<sup>13</sup> Business International, S.A., op. cit., p. 1291.

high-quality tractor axles produced in Raba's plants. The transaction is estimated to be worth \$100 million in two-way trade over a five-year period.

Hungarian countertrade agreements are also distinguished from similar Polish transactions in the length of time covered by the contract. In Hungary, reciprocal deliveries usually take place over a five-year period. In Poland, it is frequently ten years or longer.

In addition to countertrade undertaken in the context of ordinary commercial transactions, Hungarian use of countertrade as the financing element of cooperation agreements has risen rapidly in recent years—from 27 known agreements with I.W. firms at the end of 1967 to some 328 in 1974. Of that number, 154 (43%) involved licensing with payment in resultant product.<sup>14</sup> West German firms have been Hungary's most frequent partners in these activities, followed by Austria, Italy, and France.<sup>15</sup>

According to data compiled for the ECE survey<sup>16</sup> (which was based on a much smaller sample), licensing with payment in product occurred in only 33% of Hungary's total cooperation projects. Turnkey and equipment deliveries with payment in product were even less frequent, only 14% of the total.

The most active industrial sectors in the use of licensing are the mechanical engineering industry and the machine tool industry, which accounted for 31.1% and 17.3% respectively of all Hungarian licensing agreements with the West. The electrical equipment industry (as distinguished from electronics) was the most frequent importer (50% of the cases) of Western plant or equipment with payment in resultant product.

Goods exported to the West as payment for technology transferred under industrial cooperation projects already play a significant role in Hungary's total trade with the West. The share of these exports in total Hungarian exports to the I.W. countries has been estimated at nearly 4% (\$75–80 million) annually.<sup>17</sup> The corresponding figure for their share of Hungary's total industrial exports to the West may be much higher, having been estimated at 15% in 1972.<sup>18</sup>

Hungary's countertrade activity during the current five-year plan is expected to increase overall, with special emphasis on compensation arrangements. Hungary's purchases of industrial machinery from the West are predicted to reach nearly \$3 billion during the 1976–1980 period.<sup>19</sup> (This is nearly one-third of the total amount allocated for special machinery imports under the current five-year plan). Most of the equipment is earmarked for modernizing existing plants and increasing production capabilities for export. It is more than likely that many of the contracts for technology purchased from the West will entail a countertrade requirement.

Those industrial sectors targeted for the highest amount of investment are: electrical power, chemicals, machinery, and food processing. Hungary is currently looking for cooperation partners for projects in all of these areas (with repurchase of part of the output). Particular

<sup>14</sup> F. Horchler, "The Future of Austro-Hungarian Foreign Trade," Occasional Paper No. 27 of the Wiener Institut für Wirtschaftsvergleiche, Vienna, June 1975 in Paul Tareer, *op. cit.*, p. 1287.

<sup>15</sup> *Ibid.*

<sup>16</sup> UNECE, *op. cit.*, p. 1290.

<sup>17</sup> Business International, "Business Eastern Europe," March 4, 1977.

<sup>18</sup> UNECE, "Proceedings of the UNECE Seminar on the Management of the Transfer of Technology within Industrial Cooperation," Geneva, February 16, 1976.

<sup>19</sup> Business International, "Business Eastern Europe," October 1, 1976.

emphasis is on mechanization of packaging, materials handling and transport.

#### *D. Romania*

Although Romania still lags behind Poland and Hungary in numbers and value of countertrade transactions, it is making increasing use of this form of trade with the West. Until recently, even though countertrade was involved in a substantial number of Romanian transactions with the West, the countertrade feature was not always a significant element in a given transaction. This appears to have changed, however, and Romania has emerged as one of the communist countries' most adamant adherents to countertrade.

Unlike the other Eastern countries, Romania allows very little flexibility in the repurchasing commitment required of Western firms. Overall, it seeks to obtain the highest percentage of countertrade per transaction of any East European country—100% counterdelivery commitment for nearly all Western imports, even those provided for in the annual and five-year plans.<sup>20</sup> Whether such countertrade demands are met is determined during the bargaining process. Compensation arrangements are preferred.

Indicative of a relatively rigid countertrade system are the guidelines from the various Romanian industrial ministries to the FTOs on countertrade. These set forth fixed overall import and export targets which are to be filled through countertrade.<sup>21</sup> Moreover, in countertrade transactions Romania seeks to have Western firms purchase goods from the original importing FTO. Exceptions can be made, however, upon intervention of the Ministry of Foreign Trade.<sup>22</sup> To facilitate the "linkage" of Western purchases from an FTO other than the original importing FTO, Romania has designated two organizations which act as intermediaries—TERRA and DELTA, the latter established in 1975.

Some examples of Romania's countertrade with Western firms are presented in Appendix Table 3. Because the lack of data on Romania's transactions precludes even the most general observations or analysis, it may be more useful to discuss the extent of Romania's use of the countertrade mechanism as a means of financing cooperation projects with Western nations.

According to the ECE,<sup>23</sup> the supply of plant or equipment with payment in resultant product has frequently been used by Romania (in 36% of the cases surveyed) to finance its industrial cooperation projects with Western partners. Licensing with payment in product in this context has occurred in 19% of the agreements. Romanian goods used as offset deliveries under the former arrangements came mainly from the chemical and mechanical engineering industries which each accounted for 19.1% of the plant and equipment contracts signed. Eastern deliveries made as payment under licensing arrangements were derived primarily from the transport equipment and mechanical engineering sectors. These two industries alone accounted for the lion's share of Romania's licensing agreements (45% and 27.3%, respectively).

<sup>20</sup> Business International, S.A., op. cit., p. 1291.

<sup>21</sup> Ibid.

<sup>22</sup> Ibid.

<sup>23</sup> UNECE, op. cit. p. 1290.

As is the case with Poland and Hungary, Romanian exports used as payment for cooperation projects account for a significant share of Romania's industrial exports to the West. It has been estimated that this share in 1972 amounted to 12 percent.<sup>24</sup>

Romania's reliance on countertrade was expected to remain firm and possibly increase during the remainder of the decade even before the March 4 earthquake struck the country. As a result of the damage inflicted on the economy by the disaster, however, it is very likely that the need for reciprocal purchases will be even stronger than had been previously expected.

Romania faces a major reconstruction effort in rebuilding a domestic economy severely damaged by the quake. The effects of the reconstruction on Romania's trade with the West could be considerable.

Romania's 1977 and 1978 import plans will have to be rewritten to establish new import priorities. The need for materials, goods, equipment and machinery which under ordinary circumstances would not have been considered may put an additional strain on Romania's hard currency earnings. If factories that are traditional hard-currency export producers have been destroyed or badly damaged, Romanian ability to pay for Western imports, without the hard-currency earned from its traditional exports, will be even further constrained.

These factors, coupled with others, such as a possible drop in tourism, may force Romania to seek other means of financing imports and expanding exports. Hence, in addition to requesting more Western credits, the Romanian leadership may continue to press for more and more countertrade with the West.

### *E. Bulgaria*

Although the level of Bulgarian countertrade with the West currently is low relative to its total trade with the West, the emphasis on countertrade transactions is increasing.

As is to be expected of a country with a debt that is large in relative terms (Bulgaria's debt/hard currency export ratio was 4.5 in 1975,<sup>25</sup> the highest of any communist country, including Yugoslavia), Bulgaria exerts more pressure for countertrade than any other communist country except Romania in its commercial dealings with the Western firms. All commercial transactions exceeding \$1 million routinely carry with them a repurchase demand which normally is 40-50% of contract value.<sup>26</sup> The only exception to this appears to be high-priority imports, which may be exempt from any offset purchase requirement.

In order to facilitate this form of trade, Bulgaria allows its FTOs considerable flexibility in their commercial transactions with the West.

<sup>24</sup> UNECE, *op. cit.*, p. 1295.

<sup>25</sup> U.S. Government figures.

<sup>26</sup> Business International S.A., *op. cit.*, p. 1291.

Unlike the communist countries previously discussed, Bulgaria has no special organization responsible for countertrade. Rather, every FTO can participate in such trade. Moreover, countertrade is not restricted to the purchasing FTO and can be arranged with another FTO with much less difficulty than in Poland, Romania or Hungary.<sup>27</sup>

Bulgarian goods offered most frequently as reciprocal deliveries are electrical and transport equipment. Two examples of the latter are presented in Appendix Table 4. The 1975 contract with a French firm for the sale of an ethylene plant valued at \$50 million calls for the repurchase of Bulgarian handling and hoisting machinery. Under the 1976 agreement with G.M./Vauxhall (U.S./U.K.), Bulgaria is to purchase heavy-duty trucks from the British subsidiary of G.M. and in return will supply G.M. with forklift carts and trucks. Chemicals are also used quite often as countertrade.

In fact, chemical imports from the West usually entail a 100% countertrade demand for purchase of Bulgarian chemicals.<sup>28</sup>

Bulgarian countertrade agreements completed to date have been fewer in number although generally of greater value than similar agreements signed by Hungary or Romania. (See Appendix Table 4.) Moreover, they have been aimed primarily at developing finished goods or component manufacturing capabilities. Payment has been in the form of counterpurchase rather than in resultant product, although future transactions will almost certainly increase emphasis on compensation arrangements.

Bulgaria's reliance on countertrade to finance its industrial cooperation projects with Western partners has been proportionately as intense as that of Poland, Hungary and Romania. Most of its agreements with the West in this context have involved either licensing or delivery of plant and equipment, both with payment in resultant product. According to the ECE survey,<sup>29</sup> licensing agreements accounted for 36% of Bulgaria's total cooperation projects undertaken with Western partners; plant and equipment deliveries for 43%. The food and agriculture industry has been the most active participant in licensing, taking a 40% share of all such arrangements.

The remaining 60% of Bulgaria's license agreements have been equally divided among the transport equipment, machine tool, and mechanical engineering sectors.

In spite of Bulgaria's reliance on countertrade as a financing device in East-West industrial cooperation, it is estimated that only 2-3%<sup>30</sup> of Bulgarian exports to Western countries are derived from cooperation projects. However, this share will probably increase concomitantly with Bulgaria's interest in cooperation. Future Bulgarian

<sup>27</sup> Business International S.A., op. cit., p. 1291.

<sup>28</sup> Business International S.A., op. cit., p. 1291.

<sup>29</sup> UNECE, op. cit., p. 1290.

<sup>30</sup> Paul Marer, op. cit., p. 1287.

participation in such undertakings will increasingly emphasize compensation arrangements, particularly in the food processing, tobacco, metallurgy and petrochemical industries.

### *F. Czechoslovakia*

Czechoslovakia lags behind other communist countries in the use of countertrade, although there are indications that this is changing. In the face of a mounting trade deficit and growing indebtedness, plus a need for new infusions of technology, Czechoslovakia is increasing its demands for countertrade. The increased participation of Czechoslovak industrial organizations in such arrangements is receiving serious official attention. Recent administrative reforms have been specifically designed to eliminate bureaucratic bottlenecks and facilitate negotiation of such agreements with Western partners.

Those few countertrade transactions which have been reported involve purchases of non-resultant product. The counterpurchase requirement is normally 30–40% of contract value, but may vary depending on the nature of the Western imports.<sup>31</sup> Although countertrade involving one FTO is encouraged, Czechoslovak goods may be purchased by the Western partner from another FTO.<sup>32</sup> Such transactions may require the assistance of one of two special organizations—Transacta or Fincom. (See Appendix Table 5 for Czechoslovakia's countertrade transactions.)

Czechoslovakia and the G.D.R. are the two least active East European countries in East-West cooperation projects involving offset purchases. Licensing agreements have been the type of payback arrangement preferred by Czechoslovakia in its cooperation with Western firms, accounting for nearly 36% of total agreements signed. The industrial sectors most frequently represented in these licensing transactions are the chemical industry (40%), the transport equipment industry (40%), and the mechanical engineering industry (20%).<sup>33</sup>

The share of cooperation related exports in the volume of Czechoslovakia's trade with the West is far lower than for the other Eastern countries. In 1972, less than 1% of Czechoslovakia's exports to the West were associated with cooperation projects.<sup>34</sup> However, to encourage more participation in such agreements with Western partners, a 1972 law provided that cooperation agreements no longer have to be negotiated at the level of the central government. Rather, they may now be concluded by industrial enterprises, FTOs, or central authorities such as economic ministries. Moreover the Czechoslovak leadership has made clear that long-term cooperation agreements with Western partners will normally entail some purchase of Czechoslovak product.

In addition to growth in the use of countertrade as a means of financing cooperation projects, Czechoslovakia's overall countertrade activity is expected to increase through 1980. Under the current five-year plan, Czechoslovakia's foreign trade goal is to see exports outpace

<sup>31</sup> Business International S.A., *op. cit.*, p. 1291.

<sup>32</sup> *Ibid.*

<sup>33</sup> UNECE *op. cit.*, p. 1290.

<sup>34</sup> Paul Marer, *op. cit.*, p. 1287.

imports, with particular emphasis on expanding exports of capital goods and equipment to the West. Hence, we can expect to see a greater use of countertrade on the part of Czechoslovakia, and a growth in the volume of capital goods and equipment exports used as reciprocal deliveries.

### *G. German Democratic Republic (G.D.R.)*

Like Czechoslovakia, the G.D.R. has been one of the least active East European countries in countertrade with the West. However, under current G.D.R. policy, commercial transactions with the West are increasingly tied directly to countertrade. Generally, the G.D.R. tries to exact a 40% repurchase commitment from the Western firm.<sup>35</sup>

There are two entities in the G.D.R. which are involved in countertrade. Zentralkommerz GmbH has responsibility for countertrade of almost any nature. Intrac Handelsgesellschaft mbH deals mainly in the purchase and sale of nonferrous metals. (See Appendix Table 6 for G.D.R. countertrade transactions.)

G.D.R. participation in cooperation projects involving product pay-back closely resembles that of Czechoslovakia in that it is generally limited to licensing with payment in product. It is estimated that this mechanism has been used in 43% of all G.D.R. cooperation projects with the West.<sup>36</sup> There are no estimates available on the share of cooperation exports in the G.D.R.'s total exports to the West.

As in the case with the other East European countries, the G.D.R. is seeking to increase exports westward. According to Council of Ministers Chairman Horst Sinderman, the G.D.R. must substantially increase exports in order to insure essential imports. Thus, pressure for countertrade can be expected to increase in commercial negotiations with the G.D.R. In fact, there are indications that this trend has already started. At the most recent Leipzig Fair (held in March 1977), Western businessmen noted that the stance taken by G.D.R. representatives toward countertrade during the 1977 Fair was markedly different from the previous Fair. Countertrade was always the number one topic during commercial discussions. Moreover, it was reported that in most cases, East German officials began with a demand for 100% countertrade, coming down to 40-50% only in certain industrial sectors and only after difficult negotiations.

## VI. PROSPECTS

During the current five-year plan period and into the next decade, Eastern European imports from the West will continue to increase. The future role of countertrade in financing these imports will depend on many variables, the most important of which are:

1. Eastern ability to generate sufficient hard currency without the aid of the countertrade mechanism.
2. Eastern use of other financing mechanisms.
3. Continued Western acceptance of countertrade.

<sup>35</sup> Business International S.A., op. cit., p. 1291;

<sup>36</sup> U.N.E.C.E., op. cit., p. 1290.

### *A. Hard Currency Generating Capabilities*

As we have discussed, the Eastern European countries have come to view countertrade as an effective means of generating hard currency through the offset deliveries provisions of countertrade contracts. The future use of countertrade in this context may be diminished, however, if the Eastern countries find ways of expanding their exports without the "crutch" that countertrade provides.

Given domestic shortages and production difficulties, Eastern ability to generate goods for export appears to be limited.<sup>37</sup>

Aside from these supply constraints, however, Eastern goods often face difficult problems in penetrating Western markets. Until there is an established market in the West for Eastern finished goods, countertrade appears to be seen by the communist countries as one of the best means of access. In view of this, it can be expected that the Eastern European countries will continue to press for more and more countertrade with particular emphasis on compensation arrangements. Not only does this form of countertrade often provide hard currency earnings in excess of the initial Western import cost, but, more than the other forms, it also provides a means of exporting finished goods to the West, since payment is in products derived from the Western-supplied plant, equipment, or technology.

### *B. Eastern use of other Financing Mechanisms*

In addition to expanding countertrade, the Eastern countries may turn to other financing techniques as well. However, the choice of new financing methods is limited. Leasing is one form currently considered by some to have potential in East-West trade. It seems unlikely, however, that leasing will replace countertrade, or significantly reduce its use.

In any case, whether or not the communist countries are successful in finding other means of financing Western imports, countertrade is likely to play an increasingly important role in East-West trade.

### *C. Continued Western Acceptance of Countertrade*

Although the Eastern European countries can be expected to continue stressing countertrade with Western firms, the success of countertrade as an Eastern financing tool depends on the continued willingness of Western firms to use it. The current acceptance of countertrade by Western firms could change to some degree during the remainder of the 1970's and into the 1980's.

Western firms which in the past have agreed to accept Eastern finished goods as payment for plant, equipment, or technology could become increasingly reluctant to do so if they see the goods competing with their own. In addition, Western firms may begin to reappraise their acceptance of countertrade imports when faced with opposition from sensitive domestic industries (as has been seen recently in the textile and shoe industries in several Western nations). In the final analysis, however, Western firms will continue to accept countertrade transactions if they perceive them to be profitable.

<sup>37</sup> For a discussion of Eastern export capabilities see Allen Lenz and Hedija Kravalis "An Analysis of Recent and Potential Soviet and East European Exports to Fifteen Industrialized Western Countries," this volume.

In summary, over the next several years, continued Eastern reliance on countertrade should contribute to the communist countries' ability to minimize hard currency expenditures and increase sales of manufactured products in the West. Even if these countries discover other techniques, they will most likely continue to view countertrade as an integral part of their trade with the West. Western firms, on the other hand, will continue to accept countertrade as long as they perceive it to be profitable for them to do so.

## VII. SUMMARY

During this decade, the countries of Eastern Europe have become increasingly dependent on the technique of international trade known as "countertrade" in their commercial dealings with the Industrialized West. While numerous terms have been used to describe countertrade, in this paper it is defined in three forms: (1) Barter, (2) counterpurchase, and (3) compensation arrangements, also known as buyback or product payback. Countertrade is related to industrial cooperation in that a provision whereby the Western partner purchases Eastern product is often incorporated into cooperation agreements as a financing mechanism.

Western and Eastern motivations for using countertrade differ considerably. Countertrade is attractive to the Eastern European countries as a device for coping with both the short-term problem of balance of payments difficulties and the long-term problem of penetrating Western markets.

In the short-term, countertrade transactions generate for the Eastern countries hard currency earnings to finance a specific project. Quite often, especially in the case of compensation arrangements, they also earn additional hard currency income which can be used for other imports as well. In the long-term, countertrade is viewed as a means of establishing a position in Western markets for Eastern finished goods. Moreover, more and more countertrade agreements call for a continual update of the imported Western technology. This eventually could mean an improvement in Eastern production of high-quality finished goods that would then be more readily marketable in the West.

Western firms may view countertrade as a means, perhaps the only means, of gaining access to the Eastern European market. Additionally countertrade arrangements can be an effective method of obtaining a source of needed raw materials, as well as a source of reasonably lower-priced components of manufactured products.

Eastern countertrade practices vary from country to country. Depending on the Eastern country and the nature of the Western export, however, countertrade demands may range up to 100% or more of the Western export contract value. The most active Eastern participants in countertrade are the U.S.S.R., Poland, Hungary, and Romania, not necessarily in that order.

Although barter transactions are relatively rare in East-West trade, the other forms of countertrade are frequently used. In terms of numbers of transactions, counterpurchase is currently the most widely practiced form of countertrade. Compensation arrangements, however, are generally of larger dollar value and are, in fact, the most

rapidly growing form of countertrade. Moreover, the use of compensation arrangements as a means of financing industrial cooperation projects is developing rapidly and may have a significant effect on future East-West trade.

It can be expected that countertrade will remain an important component of the East-West commercial relationship through 1980. A substantial growth in Eastern ability to export without the crutch of countertrade, or an increasing use by the communist countries of other financing techniques could diminish Eastern reliance on countertrade. However, it seems unlikely that this will happen during the next several years. More likely, the Eastern countries will continue to press Western firms for more and more countertrade, with increasing emphasis on compensation arrangements. Western firms, on the other hand, will continue to accede to Eastern countertrade demands in those situations where they perceive the individual transactions involved to be profitable.

APPENDIX TABLE 1

## IDENTIFIED POLISH COUNTERTRADE TRANSACTIONS WITH THE WEST

Western country	Western supplier	Year signed	Type of Eastern Europe import	Value of Eastern Europe imports (million U.S. dollars)	Type of Eastern Europe export	Value of Eastern Europe exports (million U.S. dollars)	Remarks
United Kingdom.....	Massey Ferguson.....	1974	Equipment for Ursus tractor plant.	350	Diesel engines and tractors.....	(1)	\$257,900,000 credits backed by EGCD. Deliveries for next 5 yr.
Austria.....	Chem-Linz-Voest-Alpine.....	1974	Melamine plant (resin).....	43	Part of plant output.....	(1)	
Do.....	Voest-Alpine.....	1975	Steel products.....	287	Coal.....	* 348	Austrian banks to provide \$287,000,000 to finance Polish purchases over 5-yr period
Belgium.....	(1).....	1975	Coal mining equipment.....	335	1,500,000 tons of coal per year for 10 to 15 yr.	335	Poland received \$335,000,000 in credits.
France.....	(1).....	1975	Equipment.....	(1)	Coking coal.....	(1)	Includes \$1,700,000,000 credit line for Polish purchases.
Sweden.....	Byggnads AB Gunnar Haellstroem.	1974	Prefabricated building elements plant.	9	Prefabricated houses.....	9	
United States.....	Westinghouse.....	1974	License, equipment for semiconductors and rectifiers.	10	Semiconductors, rectifiers.....	(1)	License fees are 30 to 50 pct of production.
Do.....	Clark Equipment.....	1972	License for manufacture of construction equipment.	(1)	Axles.....	(1)	2 separate agreements covering supply of equipment and marketing.
Austria.....	Steyr-Daimler-Puch.....	1975	Licenses, trucks, and know-how.	161	Diesel engines and truck parts..	285	Counterdeliveries will cover 1980-90.
France.....	Westinghouse, C.I.I.	1974	IR 15-80 Computer System.....	10	Computer installations.....	(1)	
United Kingdom.....	Petrocarbon Developments Ltd.	1975	PVC and chlorine plants.....	400	PVC.....	(1)	Japanese firm also involved.
Sweden.....	Stansab-Electronic.....	1975	Equipment for computer monitor systems.	15	(1).....	15	
United States.....	Squibb.....	1975	Antibiotics equipment.....	(1)	Antibiotics.....	(1)	2-way trade worth \$15,000,000.
Do.....	FMC.....	1973	300 mt powdered pectin plant..	2.3	(1).....	(1)	
Do.....	Waterbury Farrell.....	1973	Steel rolling mill.....	4.4	Surface grinding machinery.....	(1)	
Do.....	do.....	1975	Brass and copper strip mill.....	55.4	Miscellaneous products, including copper and brass products.	(1)	
Japan.....	(1).....	1970	Industrial plants.....	100	2,000,000 to 3,000,000 tons of coal per year for 10 yrs.	(1)	\$100,000,000 in private Japanese credits.
United States.....	International Harvester.....	1974	Licensing for manufacture of tractors and accessories.	(1)	Tractors, accessories.....	(1)	Bumar will sell in CEMA; IH will sell elsewhere.
Denmark.....	F. L. Smidth.....	1973	Cement plants (2).....	80	1,250,000 tons of coal per year for 7 to 8 yr.	(1)	Purchases partly financed by Danish Export Credit Council.
Federal Republic of Germany.	Siemens AG; Kabel-und Metallwerke Gutshoffnungshutte AG, Norddeutsche Raffinerie, Metallgesellschaft AG.	1976	Expansion of Poland's copper industry.	125	Deliveries of 40,000 tons per year of unfabricated copper with a limited commitment to buy semifinished products such as cathodes and wire bar.	* 804-984	12-yr agreement. Hermes credit guarantees extended.

France	Creusot-Loire	1976	Equipment, technology for fertilizer plant.	360	Fertilizer	(1)	Joint marketing in 3d country.
Do	Produits Chimiques Ugine Kuhlmann.	1976	(1)	(1)	Sulfur	(1)	France and Poles will cooperate in chemical production. 4-yr agreement.
Japan	Mitsui Shipbuilding & Engineering Co.	1976	Know-how and equipment for a chemical equipment manufacturing plant.	3	Chemical equipment	(1)	Part of output will be sold in Japan.
Switzerland	Emil Haefely & Cie AG	1976	High-voltage generator	(1)	Electrical energy	(1)	
Sweden	ASEA	1977	Electrically driven industrial robots.	(1)	Electronic and automation systems.	(1)	Total value of agreement is \$6,000,000.
Do	(1)	1974	Construction of oil refinery with capacity of 10,000,000 ton/per year of crude oil.	333	Resultant produce to Sweden	(1)	To export 50 percent of production to Sweden.
Do	(1)	1976	Licence, know-how and parts for production of electric typewriters.	(1)	Counterdeliveries of parts and components to Sweden.	(1)	
Do	(1)	1975	Licence to produce relay devices for RR signal boxes.	(1)	Counterdeliveries of relay devices to Swedish firms.	(1)	
United Kingdom	Cementation International	1977	Airline terminal complex (Warsaw).	75	Construction by Polish firm on CI's contracts with 3d world nations; CI to purchase construction material from Poland.	* 35	
United States	Katy Industries	1976	Machinery and working programs for shoe production.	(1)	Shoes	(1)	5 yr agreement; some part of production to be sold in United States.
Federal Republic of Germany	ALSA-Schubbedorf GmbH	1976	Licence and know-how	(1)	Ladies shoes	(1)	
France	Berliet	1972	Licence and parts for buses and coaches (rear wheel axles, steering elements).	71.94	Parts for Berliet's French operations.	(1)	In late 1976 this was being expanded to include heavy trucks.
United States	General Electric	1976	Licence and machines for production of medical equipment.	(1)	Joint output; particularly, electrocardiogram meters.	(1)	
Italy	(1)	1976	Equipment	150	Coal	150	\$150,000,000 Italian credit line for Polish purchases.
Federal Republic of Germany	Krupp-led consortium	1976	Coal gasification plants	800	Ammonia, urea, and methanol	(1)	Result: Products to be marketed by joint Federal Republic of Germany-Polish company.
Netherlands	Hoogovens Ijmuiden BV	1977	Steel structures	40	Coking coal	400	10-yr agreements 750,000 mt./yr. of Polish coal exported to Netherlands tied to \$85,000,000 Dutch loan for expansion of coal industry. Dutch Government guarantees extended.
France	Rhone-Poulenc Institut Francais du Petrole.	1975	Chemical products, textile fibers	* 14	Sulfur	(1)	A 10-yr agreement.

<sup>1</sup> Not available.

<sup>2</sup> Over 9-yr period.

<sup>3</sup> Over 12 yr.

<sup>4</sup> In construction at 3d world sites; \$4,500,000 per year purchases by CI.

\* Annually.

Note: While information on these transactions has been taken from published Western sources, the Bureau of East-West Trade cannot vouch for its accuracy.

APPENDIX TABLE 2

IDENTIFIED HUNGARIAN COUNTERTRADE TRANSACTIONS WITH THE WEST

Western country	Western supplier	Year signed	Type of Eastern Europe import	Value of Eastern Europe imports (million U.S. dollars)	Type of Eastern Europe export	Value of Eastern Europe exports (million U.S. dollars)	Remarks
United States	Steiger	1974	Licenses and equipment for manufacture of tractors.	(1)	Tractor axles	(1)	
Do	do	1976	Technology and components for tractor manufacture.	80	do	20	\$100,000,000 2-way trade over 5 yr (extension of 1974 agreement)
Do	Corning Glass	1975	Know-how, blueprints	(1)	Blood gas analyzers	(1)	Joint venture. Corning to market 40 percent of output.
Federal Republic of Germany	Hildebrand	1974	Parquet floor plants (4)	6	Finished parquet	(1)	No information on delivery dates.
United States	Katy Industries	1976	Equipment management, designs, know-how to manufacture women's shoes.	3.2	Women's shoes	66	
United Kingdom	Vauxhall	1975	License and know-how for truck axles.	(1)	Truck axles	15	
Do	Dent. & Hellyer Ltd	1976	License for manufacture of hospital equipment.	(1)	Sterilizing equipment	(1)	\$4,800,000 total trade by 1980.
Austria	Semperit	1976	License for tire production	(1)	Tires	(1)	
Federal Republic of Germany	Burghard & Weber	1975	License and know-how for multispindle drilling machine production.	(1)	Machine tools	(1)	Majority of production capacity to go to Federal Republic of Germany.
Austria	Robert Lanschwart	1976	License and K-H for computer component products; computer components.	(1)	Computer components	(1)	Total production value of \$14,590,000 in Austrian and Hungarian products over 5 yrs.; joint sales in developing countries.
Federal Republic of Germany	Gildemeister	1976	License and K-H for product of medium and large universal turning lathes.	(1)	Machine tools	24.1-6.2	
Japan	Tokai Metals Co., Ltd	1977	Aluminum foil making equipment.	4	Aluminum foil	1.8	6-yr agreement.

France.....	Ste Prorea/Sorice, C. G. Buettner.	1977	Sodium triphosphate processing equipment (sodium polyphosphate).	5.01	Various industrial products (autoclaves electric household appliances).	3	Part of Tisza chemical works.
Austria.....	Franz von Furtenback.....	1977	License and K-H with information updates; base concentrates during initial stages.	(1)	Related finished products.....	(1)	
United States.....	Levi Strauss.....	1977	Material (under negotiation).....	(1)	Levi.....	(1)	
Do.....	Colgate/Palmolive.....	1975	(1)	.1	Paste-tubes (partial payment).....	(1)	
Denmark.....	Regnecentralen.....	1977	Electronic data processing system.	.44	Unspecified commodities (comprise large portion of payment).	(1)	
Federal Republic of Germany.....	Barton.....	1976	Know-how for production of panelled flooring.	(1)	Panelled flooring.....	(1)	Similar to 1974 Hidebrand agreement.
France.....	Chaffoteaux et Maury.....	1976	License for boilers; parts and materials.	(1)	Boiler components and gas apparatus.	(1)	Hungary will have Socialist and Scandinavian market rights; 7-yr agreement.
Sweden.....	AGA Svetsprodukter.....	1976	License and K-H.....	(1)	Gas welding pistols.....	.3369	6-yr agreement.
Federal Republic of Germany.....	MAN.....	1975	License and K-H for production of MAN bus engines at rate of 11,000 per year.	(1)	9,000 Hungarian built MAN engines.	(1)	
Belgium.....	Marrecan-Vervaeke.....	1976	Equipment and technology for production of fiber plate.	(1)	35,000 cu m. of fiber plate over 5 yrs.	(1)	
Federal Republic of Germany.....	Standard Elektrik Lorenz AG..	1975	License and K-H for color TV production.	(1)	Color TV's and components.....	* 8.295	Duration not specified; coproduction agreement.
Switzerland.....	Ghelfi AG.....	1976	Technology and K-H for environmental equipment production.	(1)	Resultant products.....	(1)	Joint production; Nikex to have Hungarian and 3d markets.
Japan.....	Toshiba.....	1976	Automatic mail sorting equipment.	3.05	(1).....	1.22	
Italy.....	Montedison.....	1977	Synthetic raw materials and organic and inorganic chemicals.	* 20	Olefins and aromatics.....	* 7	4-yr agreement.
Do.....	Snia Viscosa.....	1977	Organic chemical industry products.	2	Aromatic compounds and petrochemical materials.	8-9	Do.

<sup>1</sup> Not available.    <sup>2</sup> 1977-81.    <sup>3</sup> Per year.    <sup>4</sup> Annually.

Note: While information on these transactions has been taken from published Western sources, the Bureau of East-West Trade cannot vouch for its accuracy.

### APPENDIX TABLE 3

#### IDENTIFIED ROMANIAN COUNTERTRADE TRANSACTIONS WITH THE WEST

Western country	Western supplier	Year signed	Type of Eastern Europe import	Value of Eastern Europe imports (million U.S. dollars)	Type of Eastern Europe export	Value of Eastern Europe exports (million U.S. dollars)	Remarks
United States.....	Lipe Rollway.....	1975	Roller bearing plant.....	56	Bearings.....	<sup>1</sup> 31	Marketing in Western Europe and the United States.
Do.....	Control Data Corp.....	1973	Equipment, know-how for manufacture of computer peripherals.	(?)	Printers and card readers.....	(?)	Joint venture; marketing in Western Europe.
Federal Republic of Germany.....	Censor Industrial Handling Systems.	1976	Roller bearing equipment.....	1.6	Roller bearings.....	(?)	50 pct of contract value to be repaid in roller bearings.
United States.....	Delaval.....	1972	Pumps and centrifuge equipment.	.4	(?).....	(?)	
Do.....	General Gulf Atomic (Gulf Oil)	1973	Fuel components and assembly of nuclear reactor.	4.1	(?).....	4.1	Will cover 10-yr period.
Do.....	Brush electrical.....	1974	Locomotive components.....	(?)	Locomotives.....		

<sup>1</sup> Over 10-yr period.    <sup>2</sup> Not available.

Note: While information of these transactions has been taken from published Western sources, the Bureau on East-West Trade cannot vouch for its accuracy.

## APPENDIX TABLE 4

### IDENTIFIED BULGARIAN COUNTERTRADE TRANSACTIONS WITH THE WEST

Western country	Western supplier	Year signed	Type of Eastern Europe import	Value of Eastern Europe imports (million of U.S. dollars)	Type of Eastern Europe export	Value of Eastern Europe exports (million of U.S. dollars)	Remarks
France.....	Technip.....	1975	Ethylene plant.....	50	Handling and hoist machinery; engineering goods, petrochemical products.	(1)	
Japan.....	Komatsu Ltd.....	1975	Bulldozers, loaders, and scrapers. A service shop and a spare parts stock.	(1)	(1).....	(1)	Part of the undisclosed contract value will be paid in counter-deliveries.
Italy.....	(1).....	(1)	Cannery.....	(1)	(1).....	(1)	
United States-United Kingdom.	GM, Vauxhall Motors.....	1976	Heavy-duty trucks.....	(1)	Forklift carts and trucks.....	(1)	Initially GM will use Bulgarian forklifts in own plants, but other marketing possibilities later on.

<sup>1</sup> Not available.

Note: While information on these transactions has been taken from published Western sources, the Bureau of East-West Trade cannot vouch for its accuracy.

## APPENDIX TABLE 5

### IDENTIFIED CZECHOSLOVAK COUNTERTRADE TRANSACTIONS WITH THE WEST

Western country	Western supplier	Year signed	Type of Eastern Europe import	Value of Eastern Europe imports (million of U.S. dollars)	Type of Eastern Europe export	Value of Eastern Europe exports (million of U.S. dollars)	Remarks
United Kingdom.....	International Computers Ltd..	1975	Computers.....	3 (1).....		2	
Do.....	Schweppes.....	* 1976	Soft drinks.....	(1)	Cash, soft drinks, tomatoes, etc..	(1)	

1 Not available.    \* Under negotiation.

Note: While information on these transactions has been taken from published Western sources, the Bureau of East-West Trade cannot vouch for its accuracy.

## APPENDIX TABLE 6

### IDENTIFIED G.D.R. COUNTERTRADE TRANSACTIONS WITH THE WEST

Western country	Western supplier	Year signed	Type of Eastern Europe import	Value of Eastern Europe imports (million U.S. dollars)	Type of Eastern Europe export	Value of Eastern Europe exports (million U.S. dollars)	Remarks
France.....	Arbel Industries SA and STC France-Belge de Material.	1974	Rail wagons.....	178	Materials for wagons.....	23	Delivery starts 1975, ends 1977.
Denmark and France.....	Danish and French consortium.	1976	Steel mill.....	70	( <sup>1</sup> ).....	( <sup>1</sup> )	30-pct counterpurchase.
Federal Republic of Germany.	Salamander.....	1976	Shoes.....	14-16	( <sup>1</sup> ).....	( <sup>1</sup> )	In past, Salamander has accepted part payment in hosiery and furs.
United States.....	Dow Chemical.....	1976	Chemicals.....	( <sup>1</sup> )	Metalworking products, plastics and chemicals.	( <sup>1</sup> )	10-yr umbrella agreement.
Federal Republic of Germany.	Friedrich Uhde.....	1976	PVC complex, peripheral equipment and infra-structure work.	451	PVC and soda lye.....	( <sup>2</sup> )	Treuarbeit guarantee of 90 pct of the loan.
Italy.....	Montedison.....	1976	Chemicals.....	( <sup>1</sup> )	Chemicals.....	( <sup>1</sup> )	Exchange to take place over 1976-80 period.
Do.....	Danieli Group & Asea (Sweden).	1977	Steel mill (melting shop).....	240	Machinery and metallurgical products.	240	\$180,000,000 in Italian credits extended.
Denmark and France.....	Hoeggaard et Schultz and Kampsax/CFEM.	1976	Rolling mill.....	72	Construction work.....	24-28	
Federal Republic of Germany.	Hoechst.....	1976	Chemical complex for production of chlorine, caustic soda, chlorinvinyl monomer, PVC.	( <sup>1</sup> )	Resultant products.....	( <sup>1</sup> )	
Austria.....	Chemie Linz.....	1976	Pesticides and herbicides, agents and fertilizers.	58.38	Potassium salt and special chemicals.	58.38	

<sup>1</sup> Not available.    <sup>2</sup> 30 pct of total (over 8- to 10-yr period).

Note: While information on these transactions has been taken from published Western sources, the Bureau of East-West Trade cannot vouch for its accuracy.

# POLAND'S TRADE WITH THE DEVELOPED WEST: PERFORMANCE AND PROSPECTS

BY GARY R. TESKE

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## I. INTRODUCTION

Since taking power in late 1970, the Gierek regime has imported massive amounts of Western machinery and technology to support an ambitious economic development program. However, Warsaw imported much more than originally planned, largely because of (a) above-plan imports of capital equipment, (b) unanticipated imports of Western grain in 1974-76, and (c) higher prices for imported goods. Although exports to the developed West increased, they did not keep pace with imports. The resulting huge trade deficits forced Poland to borrow more heavily than expected and pushed its net hard currency debt up from \$2 billion at yearend 1973 to \$10.2 billion by yearend 1976 (see Table 1).

TABLE 1.—POLAND: ESTIMATED NET HARD CURRENCY DEBT AND DEBT SERVICE

[In millions of U.S. dollars]<sup>1</sup>

Year:	Outstanding net debt at yearend		Repayments of principal and interest	Debt service ratio percent <sup>2</sup>
	Total	Known medium- and long-term		
1970.....	766	700	210	22
1971.....	798	750	220	20
1972.....	1,088	900	270	19
1973.....	1,893	1,450	540	26
1974.....	3,944	2,500	870	31
1975.....	6,933	4,250	1,300	43
1976 <sup>3</sup> .....	10,200	6,250	1,650	50

<sup>1</sup> Data rounded to nearest \$1,000,000.<sup>2</sup> Scheduled repayments of principal on medium- and long-term debt plus interest payments on total debt as a percent of exports to the developed West. If estimated gross earnings on invisibles are added to exports, the debt service ratio drops to approximately 31 percent in 1975 and 35 percent in 1976.<sup>3</sup> Preliminary estimates.

Warsaw now finds itself in a decidedly uncomfortable financial position. Although Poland has been able to meet its debt service obligations until now, party leader Gierek has to make hard choices to avoid serious future problems. Poland already has announced sharp cutbacks in import growth—the most important factor in its impressive 1971–75 industrial growth—and further cuts are possible. Consequently, Gierek faces the 1976–80 plan period trying to maintain rapid economic momentum—despite cutting import growth—while coping with growing balance-of-payments difficulties and continuing consumer unrest.

Wladyslaw Gomulka, Gierek's predecessor, maintained a tight rein on Polish purchases in the West to keep hard currency debt at a minimum. Poland's trade deficits with the West averaged \$60 million in 1960–69, and its debt to the West stood at only \$800 million at yearend 1970. More than 90 percent of it consisted of medium- and long-term debt, with half in interest-free PL 480 credits. Gierek thus inherited a favorable external financial situation that provided the basis for an expansion of Western imports to support ambitious domestic economic growth policies.

## II. THE GROWING TRADE GAP, 1972–75

Since 1972, Poland's trade deficits with the West have burgeoned (see Table 2). Imports particularly surged, reaching \$5.2 billion in 1974—almost five times the 1971 level. In 1972–74, Poland imported \$4 billion in machinery and equipment (see Table 3).<sup>1</sup> Rapid increases in industrial demand, rising world prices, and reduced Soviet deliveries also led to a ninefold increase in iron and steel imports. Increased purchases of high-priced Western grains and feedstuffs in 1973–74 also contributed to the sharp rise in imports.

<sup>1</sup> See Appendix A for a breakdown of Poland's trade with the developed West by commodity groupings.

TABLE 2.—POLAND: TRADE WITH THE DEVELOPED WEST<sup>1</sup>[In millions of U.S. dollars]<sup>2</sup>

Year:	Imports <sup>3</sup>	Exports <sup>3</sup>	Balance
1970.....	901	962	61
1971.....	1,075	1,099	24
1972.....	1,772	1,397	-375
1973.....	3,431	2,063	-1,368
1974.....	5,233	2,865	-2,368
1975.....	6,076	3,026	-3,050
1976 <sup>4</sup> .....	6,660	3,330	-3,330

<sup>1</sup> Australia, Austria, Belgium-Luxembourg, Canada, Denmark, Finland, France, Iceland, Ireland, Italy, Japan, Liechtenstein, the Netherlands, New Zealand, Norway, Sweden, Switzerland, the United Kingdom, the United States, and West Germany. The bulk of Poland's trade in convertible (hard) currencies is conducted with these countries. Information on Poland's trade in hard currency with LDC's is sparse. See text footnote 4 for a description of the problems in estimating Poland's hard currency trade with LDC's.

<sup>2</sup> Data rounded to the nearest \$1,000,000. The following exchange rates were used to convert from zlotys to U.S. dollars: 1970-71—4; 1972—3.68; 1973-76—3.32.

<sup>3</sup> Based on official Polish foreign trade statistics as presented in "Rocznik Statystyczny Handlu Zagranicznego" and "Biuletyn Statystyczny."

<sup>4</sup> Preliminary.

TABLE 3.—POLAND: IMPORTS OF MACHINERY AND EQUIPMENT FROM THE DEVELOPED WEST BY SELECTED COUNTRIES

[In millions of U.S. dollars]<sup>1</sup>

	1970	1971	1972	1973	1974	1975
Total.....	261	330	703	1,309	1,867	2,464
Austria.....	15	18	37	83	119	182
France.....	28	23	51	128	180	353
Italy.....	36	33	55	106	198	238
Japan.....	4	10	45	67	87	153
Sweden.....	12	19	37	81	147	202
United Kingdom.....	51	52	91	121	153	237
United States.....	7	9	26	38	154	195
West Germany.....	47	87	245	451	490	459
Other.....	61	79	116	234	339	445

<sup>1</sup> Data rounded to nearest \$1,000,000.

Source: Official Polish foreign trade statistics.

Poland's exports to the West also rose rapidly in 1972-74—at an average annual rate of 38 percent—paced by brisk sales of coal, chemicals, foodstuffs, and light industrial products. However, more than 40 percent of the rise in export value represented higher export prices. Higher coal prices alone—up from about \$20 a ton in 1973 to about \$35 in 1974—accounted for about one-third of the rise in Poland's exports in 1974.

Poland ended 1975 with a record \$3 billion trade deficit with the West, although imports rose only 16 percent compared with 53 percent in 1974. Imports of machinery and equipment climbed again as deliveries continued on earlier orders. Warsaw also imported more Western grain to raise livestock production, owing to Moscow's suspension of grain deliveries and shortfalls in domestic grain and fodder production. On the other hand, imports of steel products and cement were curbed in the second half of the year.

Poland's exports fared poorly in 1975, rising only 7 percent, to \$3 billion. The relatively poor performance resulted from sluggish Western demand and, in some cases, from reduced prices for Polish textiles, metals, and wood products. For example, falling prices held the rise in

copper earnings to about 6 percent even though export volume rose some 40 percent over the 1974 level. In addition, EC trade barriers, rising domestic demand, and disappointing agricultural performance in 1974 resulted in a 25 percent drop in food exports. Only increased ship sales and high first-half 1975 prices for Polish coal, sulfur, and chemicals kept the value of exports to the West from falling.

West Germany, Poland's largest Western trading partner, accounted for 26 percent of the total trade deficit with the West in 1972-75 (see Table 4). Imports of West German machinery, steel products, and chemicals outstripped West German purchases of Polish foodstuffs, coal, and copper. To curb this growing trade deficit, Warsaw levied a 10 percent surtax on West German imports in 1975 and instructed foreign trade organizations to divert purchases to other Western countries.<sup>2</sup> Although Warsaw managed to hold down West German imports in 1975, Polish-West German trade was given a big boost in late 1975 by the signing of agreements to settle outstanding political differences. In exchange for a West German loan of \$425 million and agreement to pay \$550 million in 1976-78 to the Polish pension fund, Poland agreed to permit the emigration of 125,000 ethnic Germans to West Germany over the next four years.

TABLE 4.—POLAND: TRADE WITH WEST GERMANY

[In millions of U.S. dollars]

Year:	Imports	Exports	Balance	Total trade deficit
1972.....	473	294	-179	-375
1973.....	924	431	-493	-1,368
1974.....	1,251	525	-726	-2,368
1975.....	1,012	535	-477	-3,050

Source: Official Polish foreign trade statistics.

### III. FINANCING THE DEFICIT

Invisibles have contributed little to help cover Poland's large trade deficits.<sup>3</sup> Net earnings from transportation, tourism, and remittances have been largely offset by net outflows for interest and other services. Thus, in 1972-74, deficits on current account generally were slightly smaller than those on trade, with the net surplus on invisibles averaging \$100 million annually. In 1975, however, soaring interest payments on massive borrowings in 1974 and 1975 probably resulted in a deficit on invisibles (see Table 5). Poland probably registered small hard currency surpluses with developing nations in 1972-75.<sup>4</sup>

<sup>2</sup> "Poland's 1975 Plan Spotlights Exports," *Business International/Eastern Europe Report*, January 10, 1975, pp. 11-12. "Eastern Europe Bilateralism Can Affect Western Sales," *Business Eastern Europe*, December 24, 1976, p. 408.

<sup>3</sup> Estimates of net earnings from invisibles were based on data contained in Maria Rubel, "Bilans płatniczy PRL z krajami kapitalistycznymi," *Bank i Kredyt*, No. 3, March 1972, pp. 398-401. Rubel's series on invisibles were updated with data contained in the following: various volumes of *Rocznik Statystyczny* (for tourism) *Statystyczny Gospodarki Morskiej*, and *Technika i Gospodarka Morska* (for transportation).

<sup>4</sup> It is difficult to determine Poland's net hard currency trade with LDCs. Although a number of LDCs claim to settle in convertible currencies with Poland (as listed in the IMF's *Exchange Restrictions*), barter trade still occurs in many commodities under convertible currency clearing agreements. Moreover, Polish bilateral payments agreements with LDCs—under which trade generally is not settled in hard currency—may contain provisions for the settlement of trade in specific commodities only in hard currency. For example, an LDC trade imbalance with Poland may be settled in commodities (or Poland may extend credits which eventually could be paid off in commodities or hard currency), but Polish shipments of coal to the LDC would have to be paid for in hard currency. In addition, a sizable part of Poland's exports of machinery and equipment to LDCs—the bulk of its exports to LDCs—is probably not paid for in hard currency. Thus, a large portion of any surpluses on trade with convertible currency LDC partners is not available as an offset to deficits on trade with the developed West.

TABLE 5.—POLAND: ESTIMATED HARD CURRENCY BALANCE OF PAYMENTS

[In millions of U.S. dollars]<sup>1</sup>

	1970	1975	<sup>2</sup> 1976
Merchandise exports, f.o.b. <sup>3</sup>	962	3,026	3,330
Merchandise imports, f.o.b. <sup>3</sup>	-901	-6,076	-6,660
Services and transfers, net	120	325	4550
Interest, net	-40	-400	-640
Current account balance	131	-3,125	-3,420
Financed by medium and long-term credits, net <sup>4</sup>	-6	1,750	2,000
Errors and omissions <sup>4</sup>	-137	1,375	1,420

<sup>1</sup> Data rounded to nearest \$1,000,000.<sup>2</sup> Preliminary.<sup>3</sup> Official Polish statistics.<sup>4</sup> Including net transfer payments, both private and government, and other government transactions. Also included is the first West German payment of \$133,033,000 to the Polish pension system in 1976.<sup>5</sup> Includes government-backed export credits, changes in Poland's medium- and long-term net Eurocurrency positions, and estimated Polish medium- and long-term commercial borrowing in the United States and Europe.<sup>6</sup> Errors and omissions consist mainly of short-term borrowing on commercial credits but also include some bank loans of up to 5 years. Also included are hard currency balances with less developed countries and changes in foreign exchange reserves.

Poland has had to draw heavily on official and private sources to finance its deficits and rapidly rising debt-service payments. Medium- and long-term credits backed by Western governments covered a large share of its deficits in 1972-75 (see Appendix B for a list of major government-backed credit extensions). By the end of 1975, the outstanding debt on such credits totaled roughly \$2.5 billion. France, the United Kingdom, and West Germany have been the largest sources of government-backed credits, accounting for roughly two-thirds of the total amount of credits extended.

The primary source of private, nongovernment-guaranteed credits has been the Eurocurrency market. Loans have grown markedly since 1973 (see Table 6). By year-end 1975, Poland's net liabilities on the Eurocurrency markets were \$3.4 billion. In addition to its short-term borrowing, Poland obtained consortium loans with repayment periods up to 10 years at interest rates of 0.5-1.5 points above the London interbank offered rate (see Appendix C for a list of major syndicated Eurocurrency loans.) Major long-term syndications included a \$100 million loan for the development of the Lubin-Glogow copper deposits from a consortium of US and Canadian banks, a \$240 million loan for copper resource development, and a \$100 million loan for development of the Lublin coal fields.

TABLE 6.—POLAND: POSITION VIS-A-VIS WESTERN BANKS AND OTHER FINANCIAL INSTITUTIONS<sup>1</sup>

[In millions of U.S. dollars]

	Assets	Liabilities
End-1974 <sup>1</sup>	407	2,067
End-June 1975	321	2,935
End-September 1975	379	3,222
End-1975	508	3,870
End-June 1976	441	4,372
End-September 1976	441	4,866
End-1976	643	5,442

<sup>1</sup> The Western countries reporting by individual East European country are Belgium-Luxembourg, France, Italy, Sweden, the United Kingdom, and West Germany; the Netherlands beginning end-June 1975; and branches of U.S. banks in the Bahamas, Cayman Islands, Panama, Hong Kong, and Singapore beginning end-1975.

Source: Bank for International Settlements data.

Poland also has tapped other foreign sources of financing. For example, Warsaw has received substantial Middle East deposits and may have drawn down part of a \$250 million Iranian credit.<sup>5</sup> Soviet-owned banks in the West, particularly Moscow Narodny Bank in London and Eurobank in Paris, have participated in or comanaged some of Poland's consortium Eurocurrency loans, and presumably have given Warsaw direct lines of credit. At yearend 1975, Poland's indebtedness on hard currency credits from the International Investment Bank (IIB) of the Council for Mutual Economic Assistance (CEMA) totaled an estimated \$130 million.<sup>6</sup> Poland's hard currency indebtedness to CEMA's International Bank for Economic Cooperation totaled roughly \$200 million—mostly short term.

Poland's recent heavy borrowing on the Eurocurrency market resulted from its need for untied credits to take care of immediate financial needs created by large trade deficits and rising debt service obligations. Because much of this borrowing has been short term, Poland's debt maturity structure has been greatly shortened. This situation—because of the need to roll over large amounts of credits on a regular basis—has made Poland more vulnerable to changes in money market conditions. Moreover, heavy use of untied credits probably has weakened Poland's creditworthiness in the eyes of Western lenders and may increase its difficulties in obtaining similar funds in the future.

#### IV. SITUATION IN 1976

Poland's hard currency balance of payments position worsened in 1976 as Warsaw posted a record trade deficit of \$3.3 billion with the developed West. Imports of \$6.7 billion were twice the level of Polish exports, boosting the hard currency debt to \$10.2 billion at yearend. Poland's terms of trade with the West also deteriorated as export prices fell 5 percent and import prices dropped 3 percent.

Cutbacks in purchases of steel, chemicals, and textiles were more than offset by deliveries in the fourth quarter of 1976 of large amounts of consumer goods, US grain, and Western machinery and equipment ordered earlier. But Warsaw did lay the groundwork for further cuts in imports in subsequent years. It canceled \$500 million in projects involving heavy use of imported equipment—including the \$250 million foundry at Stalowa Wola—that will not eventually yield hard currency exports. In addition, Warsaw has postponed other purchases in the West, including the \$700 million General Motors light van project.

Polish export earnings in 1976 were buoyed by higher prices—at least in the first half—for chemicals, ships, and copper. The resumption of sugar exports—curtailed in 1974–75 as a result of poor sugar beet harvests—also boosted earnings. Foreign exchange earnings, however, were held in check by reduced prices for coal, Poland's major hard currency earner. Consumer grumblings over domestic coal shortages in late 1976 also forced some reduction in coal exports. In addition, the need to increase domestic meat supplies—as a result of the June price-rise fiasco—caused a 50 percent reduction in the volume of raw meat exports in 1976.

<sup>5</sup> "Iran—Credit and Trade Deal with Poland," *Middle East Economic Digest*, November 22, 1974, pp. 1416–1417.

<sup>6</sup> This excludes Poland's debt to IIB on hard currency credits for the joint CEMA natural gas pipeline project in the USSR. The value of these credits is unknown.

To cover its \$3.1 billion trade deficit plus an estimated \$1 billion in debt repayments, Warsaw relied heavily on government-backed Western credits and Eurocurrency loans. Poland drew on almost \$2 billion in government-backed export credits in 1976. In addition, it received \$300 million in West German credits and payments to the Polish pension fund and may have drawn down most of the \$250 million Iranian credit extended in 1975. Poland's net liabilities on the Eurocurrency markets rose by \$1.4 billion in 1976.<sup>7</sup>

In 1976, Warsaw found it increasingly difficult to obtain the credits it needed at favorable borrowing rates.<sup>8</sup> Some bankers had become concerned over Poland's large debt and prospects over Warsaw's ability to control its continuing large trade deficits.<sup>9</sup> In addition, last June's food riots and the subsequent cave-in by the government dealt a blow to Warsaw's creditworthiness.<sup>10</sup> Despite Western banker's apprehensions, however, Poland still has been able to obtain substantial funds in the West as long as it is willing to pay the requisite rates.

Despite the optimistic foreign payments picture painted by Polish financial leaders, there were indications in 1976 that Poland was in a payments bind.<sup>11</sup> According to Western news reports, Poland requested some Western banks to extend credits for purchases of steel and other manufactured goods beyond the normal six months to three years.<sup>12</sup> Warsaw has also pressed some Western firms for hard currency credits to cover project-associated local currency costs.<sup>13</sup> Such credits conceivably could be used to meet interest and principal payments on existing debt.

The Soviet economic aid package to Poland—agreed upon during party leader Gierek's visit to Moscow in November 1976—should give Poland's balance of payments a needed shot in the arm in 1977-80, but it is not sufficient to bail Poland out of its present or future financial difficulties. The package included shipments of raw materials above planned levels, increased deliveries of consumer goods, a low-interest 1 billion ruble loan, and the resumption of grain deliveries, which were suspended in 1975-76 as a result of the disastrous 1975 Soviet grain harvest.<sup>14</sup>

## V. PLANS FOR 1976-80

In the revised 1976-80 development program, Polish planners have scheduled industrial production to increase at an average annual rate of 8.5 percent and national income to grow at 7.3 percent.<sup>15</sup> These goals, still ambitious, are lower than the announced 1971-75 achievements of 10.5 percent and 9.7 percent, respectively. Total exports are to increase by 12 percent annually in constant prices, while imports are targeted for a 4.6 percent annual growth. These targets are substantially lower than those announced in December 1975 at the

<sup>7</sup> See Table 6.

<sup>8</sup> Richard Ensor and Francis Ghiles, "CEMA Debts May Be \$45 Billion, but the Loans Have Kept Flowing," *Euro money*, January 1977, p. 23.

<sup>9</sup> "Huge Debt Stalls Western Ventures," *Business Week*, January 17, 1977, pp. 38-39.

<sup>10</sup> "Polish Food-Price Rollback Worries Western Bankers," *Business Eastern Europe*, July 23, 1976, p. 226.

<sup>11</sup> Padraic Fallon, "Roman Malesa. Bank Handlowy's President and Negotiator," and "Talking to Poland's Minister of Finance, Henryk Kisiel," *Euro money*, January 1977, pp. 31-34 and 45-47.

<sup>12</sup> "Huge Debt Stalls Western Ventures," *op. cit.*, p. 39.

<sup>13</sup> *Ibid.*, p. 39.

<sup>14</sup> David Lancelles, "Soviet Aid Package for Poland Includes \$1.3 Billion Loan," *Financial Times*, November 20, 1976.

<sup>15</sup> P. Jaroszewicz, Reports on the 1976-80 draft plan and budget to the 2 December session of the Polish Sejm, December 2, 1976 (FBIS-EE U-76-244, December 17, 1976, Volume II, No. 244, pp. G1-17).

seventh party congress.<sup>16</sup> Total exports were to increase at an annual rate of 15.5 percent, while imports were slated for a 9.4 percent annual growth. Targets for trade with the West in 1976-80 were not announced in the revised plan. Preliminary targets, however, were calculated from data contained in the 1975 version of the plan. At that time, the volume of exports to the West was scheduled to rise by 15 percent annually and import volume growth was projected at only 5 percent annually—down from 33 percent annually in 1971-75.

There are indications, however, that the Gierek regime may have adopted a no-growth import policy or even a policy of an absolute decline in imports from the developed West for the remainder of the decade. In discussions of the 1976-80 draft plan before the Sejm (Polish Parliament) in December 1975, the level of imports from the West was described as being "stable" in 1976-80.<sup>17</sup> Given the projected increase in trade with CEMA—especially the Soviet Union—in 1976-80, it would appear that Warsaw is planning to curb sharply its imports from the developed West. Moreover, the 1977 plan calls for a total import growth of only 2.7 percent. This would indicate that Warsaw is planning, at least for 1977, an absolute decline in imports from the developed West.<sup>18</sup>

## VI. PROSPECTS

### A. Trade

It is questionable whether Poland can meet its trade targets with the developed West in 1977-80. Poland has not been able to reap many gains—in terms of increased exports of goods to the West—from its massive purchases of Western machinery and equipment. Deficiencies in Poland's infrastructure have led to numerous construction delays which have lengthened the time to get profitable production underway. Even when highly sophisticated plant and equipment come on stream, poor management often results in below capacity production. Moreover, Poland's ability to increase hard currency exports depends heavily upon Western economic prosperity. Export growth stagnated during the Western recession in 1975 and grew sluggishly in 1976 as recovery faltered.

The projected 15 percent annual real growth in exports to the West appears too ambitious, even if Western economic recovery picks up steam. Estimated export capacity suggests an export volume growth at best of 11 percent to 12 percent. Coal exports, now valued at almost \$1 billion, will continue to be Poland's largest hard currency earner, possibly topping \$1.5 billion by 1980 if Warsaw can reach targeted production of 210 million tons in 1980 and minimize domestic consumption. Long-term coal contracts have assured Warsaw outlets for most of its planned coal exports to the developed West in 1977-80 (see Appendix D). Poland probably will not be able to achieve above-plan coal exports because of limited mining capacity and, despite best efforts to hold down demand, rising domestic consumption. Substantial increases in coal exports will not be attained until the 1980s, when the Lublin mines are operational.

<sup>16</sup> "Poland 1976-80," *Kurier Polski*, Supplement; (Translated in JPRS 67093, April 6, 1976, p. 64).

<sup>17</sup> "Sejm Committees Discuss Draft Laws," December 4, 1976 (FBIS-EEU-76-235, December 6, 1976, Volume II, No. 235, p. G10).

<sup>18</sup> "Resolution of the Sejm of the P.L.R. of December 18, 1976 on the National Socio-Economic Plan for 1977," *Monitor Polski*, No. 43, December 27, 1976.

Exports of copper, sulfur, and zinc should rise rapidly as Warsaw continues its fast pace of resource development. Poland's traditional exports of food and live animals, however, will be constrained by rising domestic demand and trade barriers in the important EC markets. As a result of past and continuing investments—especially of Western equipment and technology—exports of ships and copper should show the greatest growth in this period.

Warsaw also may find it difficult to hold import growth to 5 percent or follow a no-growth import policy if the high growth rates for industrial production and national income are to be achieved. Imports from the developed West represent about 10 percent of Polish national income but are considerably more important in terms of the types of products represented. The productivity of Western equipment is for the most part higher than comparable equipment produced in Communist countries. Other Western producer goods such as specialty steels are critical to Polish production plans.

According to numerous speeches made by party officials, Warsaw recognizes the need to hold down imports of capital equipment to sustain essential imports of grain and raw materials. Such imports can be reduced for a time without affecting economic growth because of the large backlog of equipment not yet in operation and the under-capacity production of existing Western machinery and equipment. Imports of equipment and machinery not expected to generate hard currency exports probably will be the first sacrificed. But given the large orders already placed, machinery and equipment imports will continue to rise in the next year or two, after which they should level off.

Poland cannot curtail imports of industrial raw materials too long without jeopardizing its economic growth plans. Curbs on purchases of raw materials in 1976 already have caused some depletion in stocks and further cutbacks could result in serious production bottlenecks. In addition, the failure to increase imports of industrial goods such as steel could adversely affect export capacity—e.g., in the shipbuilding industry.

The achievement of 1977–80 economic growth targets will also depend on increasing imports of oil from noncommunist sources. Rising world oil prices forced Warsaw in 1975 to scale-down an ambitious oil refinery expansion program, and consequently, to lower projected total crude oil imports in 1980 from 28 million tons to 20 million tons. Imports of Western crude should increase—despite the recently announced boost in Soviet deliveries to Poland—from about 2.4 million tons in 1975 to 7 million tons in 1980.

Poland's reliance on Western grain imports will have to remain high if livestock production for both domestic consumption and export are to be boosted. Even with continued Soviet deliveries of 1 to 1.5 million tons a year—the annual average of Soviet shipments to Poland in 1971–75—and good years in agriculture, Poland will still need to import 2 to 3 million tons of grain each year from the West. Recognizing the need for continued large grain imports, Warsaw has negotiated a long-term grain agreement with the United States guaranteeing access to the U.S. market, its main source of foreign grain. In addition, Warsaw has renewed its three-year grain purchase agreement with Canada.

### B. Impact of Recent Soviet Assistance

The Soviet credit probably will be used to finance above-plan purchases of machinery, raw materials, and possibly grain from the U.S.S.R. in 1977-80. At the very least, Poland should not have to divert exports from the West to pay for the additional Soviet deliveries. The credit may even allow Poland to redirect some of its exports from the U.S.S.R. to other markets. For example, coal and other products could be sold in the West for hard currency.

The resumption of Soviet grain deliveries and increased shipments of raw materials will allow Poland to curb further the growth of its hard currency imports. In 1977 alone, the Soviets will supply Poland with one million tons of grain.<sup>19</sup> Details on raw materials deliveries are sketchy. The Soviets have agreed to boost annual crude oil shipments from 11 million tons to 13 million tons.<sup>20</sup> Soviet shipments of oil products will rise dramatically—from 6.5 million tons to 12 million tons over the period. The Soviets may also have agreed to increase deliveries of raw materials, such as iron ore, that Poland buys from the West for hard currency.<sup>21</sup>

### C. Financing the Deficits

Poland is expected to run large, but declining, trade deficits in 1977-80. Warsaw should be able to avoid serious financial difficulties if it can achieve a 15 percent real annual growth in exports and maintain real import growth below a 5 percent annual level. If export growth should fall below expected levels, Poland almost certainly could not meet its import growth targets because of financial constraints. Specifically, Poland cannot continue to rely heavily on Western commercial bank credits, nor to increase debt service on medium- and long-term debt to a level greatly above the current 50 percent.

Poland has roughly \$5 billion in unused government-backed credits and credit lines to draw on in the next two years. A large part of credits extended over the past 18 months or so were still available as of the beginning of 1977. Among these are a part of \$1.7 billion line from France for a fertilizer plant and other capital equipment, a \$310 million credit from the United Kingdom for a polyvinyl chloride (PVC) complex, and a \$450 million credit from Japan for industrial plant and equipment. In addition, the West Germans have agreed in principle to extend Poland a \$1 billion credit—in large part covered by a government guarantee—for a coal gasification project. Additional credits tied to sales of machinery and some intermediate products such as steel, are likely. Western lenders look especially favorably on credits designed to increase Polish export capacity. But Poland's ability to obtain tied medium- and long-term credits has its limits. A heavy debt service burden has long-term implications for a country's ability to repay its obligations while meeting its import requirements.

<sup>19</sup> E. Gierek, "Report to the Fifth Session of the PZPR Central Committee, December 1, 1976 (Translated in *Summary of World Broadcasts*, EE/5380, December 3, 1976, p. C5).

<sup>20</sup> The Polish-Soviet five-year trade agreement signed in December 1975 called for the Soviets to deliver 50 million metric tons of crude oil to Poland in 1976-80. An additional 1 million tons was to be supplied each year, beginning in 1977, as a payment for Polish construction of the Polotsk oil pipeline in the U.S.S.R. The recent Soviet aid package boosted Soviet crude oil shipments to Poland in 1976-80 by 9 million tons (see "Plans for Polish-Soviet Cooperation in Many Industrial Fields up to 1985," *Trybuna Ludu*, No. 4, January 6, 1976, p. 1).

<sup>21</sup> David Lascelles, "What Went Wrong in Poland—An Exclusive Interview with the Prime Minister," *Financial Times*, December 14, 1976, P. 4.

Moreover, tied credits will not meet Poland's financing requirements. Warsaw will continue to need large untied credits to help cover large trade deficits and meet debt service obligations but undoubtedly will encounter difficulties in raising these funds. Continued heavy untied borrowing will lead to increased Western concern over Warsaw's ability to manage its balance of payments; at a minimum it will be viewed by Western bankers as a sign of financial mismanagement. Banks have become increasingly selective on additional loans to Poland and will favor, those loan requests tied to Polish imports of Western products. A major share of untied credits has come from short-term borrowing, much of which is subsequently rolled over by Warsaw. A second source of untied funds has come from medium- and long-term Eurocurrency syndications.

In the final analysis, Warsaw will be forced to cut its planned economic expansion program. The cuts will have to be handled carefully to minimize their effect on consumers and exports. Just how much freedom of action Polish leaders have in controlling imports that directly or indirectly affect consumption is uncertain, given the sensitivity of the population to any real or perceived reductions in its standard of living. Warsaw could ask Moscow for further assistance which could soften the impact of any reduction in planned growth. But, Moscow probably would want some sort of a quid pro quo in return for any aid. The Soviets probably would not press for greater Polish deliveries of hard goods—such as coal—because this would only aggravate Poland's payments position. At the very least, Polish leaders may feel more obligated to heed Soviet advice concerning management of the Polish economy.

### APPENDIX A

#### POLAND: COMPOSITION OF TRADE WITH THE DEVELOPED WEST ACCORDING TO COMMODITY GROUPS

[In millions of U.S. dollars]

	1970		1974		1975	
	Value	Percent	Value	Percent	Value	Percent
Total exports <sup>1</sup> .....	962	100.0	2,865	100.0	3,026	100.0
Fuels and power <sup>2</sup> .....	184	19.1	749	26.1	1,022	33.8
Metallurgical products.....	120	12.5	361	12.6	247	8.2
Machinery and equipment.....	66	6.9	325	11.3	471	15.6
Chemicals.....	67	7.0	315	11.0	235	7.8
Construction materials.....	18	1.9	52	1.8	43	1.4
Wood and paper.....	69	7.2	137	4.8	123	4.1
Light industrial products.....	58	6.1	200	7.0	215	7.1
Processed foods.....	260	27.0	518	18.1	446	14.7
Agricultural products.....	107	11.1	175	6.1	156	5.2
Other.....	13	1.4	33	1.2	68	2.3
Total imports <sup>1</sup> .....	901	100.0	5,233	100.0	6,076	100.0
Fuels and power.....	12	1.3	190	3.6	308	5.1
Metallurgical products.....	151	16.8	1,031	19.7	1,170	19.3
Machinery and equipment.....	261	29.0	1,867	35.7	2,464	40.5
Chemicals.....	163	18.1	817	15.6	844	13.9
Construction materials.....	25	2.8	66	1.3	69	1.1
Wood and paper.....	42	4.7	135	2.6	140	2.3
Light industrial products.....	46	5.1	209	4.0	150	2.5
Processed foods.....	79	8.8	331	6.3	280	4.6
Agricultural products.....	101	11.2	472	9.0	548	9.0
Other.....	21	2.3	115	2.2	103	1.7

<sup>1</sup> Because of rounding, components may not add to totals shown.

<sup>2</sup> Roughly 90 percent of the value of this category represents earnings from the export of coal and coke.

Source: Official Polish trade statistics.

## APPENDIX B

## POLAND: MAJOR WESTERN GOVERNMENT AND GOVERNMENT-BACKED CREDIT EXTENSIONS

Western nation and date	Credit extended (millions of U.S. dollars)	Interest rate (percent)	Length of repayment (years)	Down-payment (percent)	Description
Austria:					
1974.....	167	8	15-17	20	Machinery and equipment.
1975.....	230	7.5	12	10	Heavy-duty trucks.
1975.....	250	NA	5	20	Steel.
1975.....	60	NA	7	10	Consumer goods.
1975.....	50	NA	7	10	Chemicals.
Belgium:					
1974.....	103	NA	6	15	Machinery and equipment.
1975.....	335	NA	7	15	Coal mining equipment; consumer goods.
Canada:					
1975.....	500	7.75-8	8	10	Kwidzyn pulp and papermill.
France:					
1972.....	306	NA	7	15	Steel rolling mills.
1973.....	153	NA	7	15	Machinery and equipment.
1974.....	458	NA	7	15	Chemical plant and fertilizer.
1975 <sup>1</sup> .....	1,700	7.5	7	15	Police fertilizer plant; capital equipment.
Italy:					
1975.....	300	7.75	5	15	Italian plant and equipment.
1975.....	200	8	5	15	Semifinished goods.
1977.....	300	NA	5	15	Steel products; equipment.
Japan:					
1973.....	100	6.5	8	20	Machinery and equipment.
1974.....	200	6.5	8	20	Do.
1975.....	180	6.5	8	20	Do.
1976.....	450	7.5	8	20	Do.
United Kingdom:					
1974.....	304	7	8	15	Ursus tractor plant.
1976.....	310	7.5	8	15	PVC complex.
United States:					
1973.....	55	6	5	10	2 meat-processing plants.
1973.....	63	6-8	3	-----	Commodity Credit Corporation (CCC) credits.
1974.....	44	6	5	10	Copper processing plant.
1975.....	218	8-9	3	-----	CCC credits.
1976.....	188	8-9	3	-----	Do.
West Germany:					
1975.....	425	2.5	25	-----	Financial credit.
1976.....	1,037	NA	NA	-----	Coal gasification plant.
1976.....	124	7	10	-----	Development of copper deposits.

<sup>1</sup> Credit was extended in June 1975 to cover imports of French plant and equipment up to June 1978.

<sup>2</sup> Carries an unspecified floating rate over the base of 7 percent.

## APPENDIX C

## POLAND: MAJOR KNOWN SYNDICATED EURO CURRENCY LOANS

Date	Loan value (millions)	Interest rate (percent) <sup>1</sup>	Grace period (years)	Repayment period
July 1973.....	\$60	0.5-1.0	-----	1974-83:
April 1974.....	75	.625	3	1977-82
May 1974.....	70	.625-.75	3	1977-82
October 1974.....	100	1-1.125	-----	1975-81
April 1975.....	240	1.5	2	1977-83
May 1975.....	50	1.5	-----	1976-80.
June 1975.....	50	1.5	-----	1976-80.
Do.....	50	1.375-1.5	-----	1976-83
July 1975.....	35	1.5	-----	1976-81
October 1975.....	40	1.5	-----	1976-82
March 1976.....	100	1.5	2	1977-82
June 1976.....	140	1.5	3	1979-81

<sup>1</sup> Above London interbank offered rate.

## APPENDIX D

## POLAND: HARD CURRENCY COAL CONTRACTS

Western nation	Quantity to be delivered each year (thousand metric tons)	Length of contract
Austria.....	750	1976-85
Belgium.....	1,000	1977-84
Denmark.....	3,500	1974-80
Finland.....	2,000-4,300	<sup>1</sup> 1977
France.....	3,500	1976-83
Holland.....	750	1977-81
Italy.....	3,000-5,000	1976-81
Japan.....	800	<sup>2</sup> 1977-79
Sweden.....	1,250-2,000	<sup>2</sup> 1977-85
United Kingdom.....	1,500	<sup>2</sup> 1977-79

<sup>1</sup> Quantity exported each year is probably negotiated on an annual basis.

<sup>2</sup> Contract still under negotiation.

# TRADE AND AID IN THE ALBANIAN ECONOMY

BY MICHAEL KASER\*

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### A. THE STATISTICS OF TRADE

The analysis of Albanian external economic relations is severely hampered by the absence of a time-series of trade returns, and it is a further novelty of this paper to provide detailed estimates of aid and trade. When the General Directorate of Statistics began to publish a statistical yearbook, external trade data were at first excluded. A series began in the *Yearbook* for 1959<sup>1</sup> showing total imports and exports, an eleven-country breakdown and certain major traded commodities in physical quantities for 1938, 1945 and 1950 and the individual years 1955-58. A mission of the United Nations Economic Commission for Europe to Albania in 1960, of which the present writer was a member, sought and received corresponding data for 1951-54 which it published in its report,<sup>2</sup> and which later appeared in the yearbook, when in the mid-sixties they reached a maximum of revelation. Not only did they provide a complete total-trade series back to 1945 (though not its direction for the missing years), and detail of exchanges with up to 27 partners,<sup>3</sup> but also a commodity classification in nine groups and the only commodity by country data ever to appear.

When the abstracts became biennial, the supply of foreign-trade statistics was severely reduced and none has contained more than a selection of about thirty individual commodities in physical terms as exports and about twice that number as imports. The abstracts not published in the regular series reduced the release to exported commodities and gave no information whatsoever on imports; one publication did provide for 1973 a breakdown by three commodity groups and separated fabricated from non-fabricated exports.<sup>4</sup> Although no Albanian source has quoted trade values for any year after 1964, the statistical offices of the GDR and of Poland have published import

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<sup>1</sup> *Anuari statistikor*, 1959, pp. 168-73.

<sup>2</sup> *Economic Survey of Europe in 1960*, Table 8 of Chapter VI.

<sup>3</sup> *Vjetari statistikor*, 1966, pp. 314-5; that for 1964, pp. 316-7 fell short by only one partner's returns.

<sup>4</sup> Both were issued to commemorate a 30th anniversary, respectively the founding of the Party and of the State, *RPSh në jubileun e 30 vjetorit të themelimit të PPSh, 1971*, with data to 1971 and *30 vjet Shqipëritet socialiste, 1974*, with data to 1973 (trade data on pp. 179-80).

and export series (Table 1A) which are not readily compatible with the few Albanian statements on ratios of exports to imports and of annual export increments, from which the extension of the series 1965-70 in Table 1 is derived and on which the series in Table 2 are based. Because neither a quantum nor a unit-value index has ever been published, Table 1 applies the price index recorded for Yugoslavia to the trade composition of which Albania approximates.

The absence of trade returns led the United Nations Economic Commission for Europe to suspend discussion of Albanian foreign trade in its annual *Bulletins* and *Surveys*;<sup>5</sup> because Albania is a member of the United Nations it could not include estimates, although it cites partner data when analysing East-West trade. Two international agencies in which Albania does not participate, GATT and the IMF, make extensive use of partner returns, but do not estimate the large gap in those returns arising because China does not publish the country breakdown of its trade.

### B. FOREIGN AID

In the immediate postwar period UNRRA (chiefly by provision of the United States) and Yugoslavia supplied Albania's import requirements; the termination of United States aid in 1947 and of all UNRRA deliveries in early 1948 was soon followed by the rupture of Yugoslav economic relations in July 1948. UNRRA assistance totalled \$26.3 mn, of which the United States supplied \$20.4 mn. Yugoslav economic aid of 1,650 mn dinars (\$33 mn) had been delivered between 1945 and June 1948.<sup>6</sup> The lack of diplomatic relations with the United Kingdom after 1945 over the Albanian refusal to pay the compensation determined by the International Court of the Hague (for mining two Royal Navy destroyers in the Corfu Channel), the U.K. retention of the Albanian gold reserve, and the refusal of the United States to follow up its wartime military mission with diplomatic representation largely closed access to the West. The USSR rapidly stepped in (as the West was doing for Yugoslavia when it suffered an East European embargo) and, as Table 6 shows, furnished a large volume of supplies against much smaller counter-deliveries. During the 1956-60 Plan it made a very large provision of capital goods for industrial and mining installations and for farm mechanization. Albanian exports to the USSR fell far short of imports thence, as the following figures show in millions of new valuta leks (converting the contemporary data into post 1965 currency units):

Year:	Exports	Imports	Excess of imports
1945.....		5.9	5.9
1950.....	20.3	41.0	20.7
1951-55.....	141.9	423.5	281.6
1956-58.....	186.1	436.9	250.8
1959.....	76.3	240.1	163.8
1960.....	121.0	228.3	107.3
1961.....	105.4	112.4	7.0
1962.....		.1	.1

<sup>5</sup> Except for inclusion of two statistics in a table in the *Survey for 1971* (Part II, Table 2.1) and paragraphs in the *Survey for 1970* (Part II, p. 140) and *Survey for 1976* (p.152).

<sup>6</sup> S. Skendi (ed), *Albania*, New York, 1956, pp.230-1. The only Albanian statistics of trade are that in 1945 21.6 mn leks were exported and 22.4 leks were imported (*Anuari statistikor*, 1969, p. 168).

The USSR ran a visible surplus with Albania of 282 mn leks in the First Five-year Plan and of 522 mn leks in the Second, but the run down as political relations deteriorated is evident from the above data: the trade deficit was a mere 7.0 mn lek in 1961. Overall, an excess of imports of 831 mn leks over exports to the USSR was shown for 1950-61. Until May 1961 the exchange rate was the equivalent of 1 new valuta lek to 0.80 old roubles or \$0.20; at that rate, the Soviet unrequited export to Albania cumulated to \$166 mn.

Between July 1947 and January 1961 the USSR concluded with Albania six credit agreements totalling 623 mn old roubles (\$156 mn). Technical and military assistance was on some estimates around 400 mn old roubles or \$100 mn. Albania was released from repayments of all its debts by the USSR in April 1957 and a further 300 mn credit was offered for the Third Five-year Plan. The offer was withdrawn and all trade with the USSR quickly ceased. During the four years of the Third Five-year Plan for which trade by country is available, the balance with China was as follows (in millions of new valuta leks).

Year	Exports	Imports	Excess of imports
1959.....	12.1	24.1	12.0
1960.....	10.4	34.9	24.5
1961.....	13.9	97.4	83.5
1962.....	58.5	210.7	152.2
1963.....	116.8	208.4	91.5
1964.....	119.6	308.6	189.0

In four years China supplied 533 mn new valuta leks more than it received from Albania, and, deducting the 7 mn deficit with the U.S.S.R. from the 735 mn leks total (Table 2), it must have provided up to 728 leks during the currency of the Third Plan. At a rate of 5 new valuta leks to the dollar for that period (see Table 13), some \$146 mn aid would have been given in 1961-65.

The cumulative import excess over exports in Table 2 was 1,229 mn new valuta leks (\$246 mn) in 1966-70 and 2,213 mn (\$492 mn) in 1971-75: that of 1961-65 (735 mn leks or \$147 mn) was 17.5 percent of the 15-year deficit (4,177 mn or \$885 mn). The upper limit of an estimate made from the Chinese side of aid is \$420 to \$800 mn to the end of 1975.<sup>7</sup> In the discussion of the direction of trade below, an import excess of \$485 mn is shown for 1971-75 (Table 12), such that the quinquennial provision of unrequited exports by China could be set out in Table 5.

Table V-3 brings together the estimates of aid granted to Albania in the thirty years since World War II. Deflators for the period to 1970 are shown in Table 1 drawn, as already noted from Yugoslav experience of world price movements; those for 1971-75 are in Table 4. In 1970 prices as shown by Yugoslav trends, aid given in the 1971-75 Plan was 45 percent larger than under the preceding Plan, which in turn was 21 percent greater than in the Third Plan, the first for which Chinese aid was afforded.

At current prices Chinese aid during 1971-75 of \$485 mn would have been 39 percent of the import bill and 24 percent of trade turn-

<sup>7</sup> A. F. Cooper, *China's Foreign Aid, 1976*, Table 2-2.

over. A recent study published after scrutiny by the Faculty of Politics and Law of Tirana University by a fervent supporter of the PLA has claimed that Chinese aid has never exceeded 10 percent of turnover:<sup>8</sup> such a ratio could be possible at domestic prices, with Chinese equipment relatively cheap in comparison with other Albanian tradeables, but it seems indefensible at world prices.

### C. THE DIRECTION OF TRADE

Albania has always traded most with the donors of economic assistance. While this pattern is not untypical of the relations prevailing between developing and developed countries, the fundamental framework has always been political. Before World War II, the dominant trading partner was Italy, which supplied 43 percent of Albanian imports in 1938 and provided the biggest export surplus to Albania (covering 30 percent of its total deficit). The relationship became still closer during the Italian occupation (1939-43). Liberation in concert with Yugoslav partisans naturally led to intimate economic ties with postwar Yugoslavia. As has just been noted, Yugoslavia furnished assistance until 1948: in 1945 it monopsonised Albanian exports although furnishing only 28 percent of its imports. The shift to Soviet and Comecon aid after 1948 greatly raised the share of that group, as the following Comecon percentages of total Albanian trade show:

	Imports	Exports
Year:		
1950.....	100	98
1960.....	86	92
1963.....	32	39
1964.....	28	47

The contrast between the overwhelming trading links with Comecon in the fifties with their diminution after the turn of the decade reflects the termination of Comecon aid and the total break in Albano-Soviet commercial and diplomatic relations. The other members of Comecon did not, however, cease to trade, as Table 6 shows from Albanian statistics.

When silence enveloped the Albanian trade returns in 1964, China was supplying 63 per cent of Albanian imports and buying 40 per cent of its exports. The second largest partner among Comecon members was Czechoslovakia (10 per cent of imports and 19 per cent of exports). From the date onwards, apart from the series from a GDR source in Table 1A<sup>9</sup>, the precise relationship of which to Albanian data is uncertain, reliance must be made upon partner data. Among the latter, China makes no returns, although Western estimates are available on the direction of Chinese trade.

China has certainly been furnishing at least half of Albanian imports since 1962, when the share leapt to 65 per cent from 27 per cent in 1971.<sup>10</sup> A Soviet reference book wrote of a Chinese share in Albanian turnover 'in excess of 50 per cent' in 1968<sup>11</sup> and the result of deducting

<sup>8</sup> W. Ash, *Pickaxe and Rifle, the Story of the Albanian People*, London, 1976.

<sup>9</sup> *Statistisches Jahrbuch der DDR, 1972*, p. 2A.

<sup>10</sup> *Vjetari statistikor, 1968*, p. 315.

<sup>11</sup> *Ezhegodnik BSE, 1969*, p. 195.

partner data from rough estimates of total Albanian trade (as shown in Table 12) puts China at 53 per cent of imports, 23 per cent of exports and 42 per cent of turnover over the five years 1971-75. As the Appendix shows, the estimates of Chinese assistance in the fifteen years 1961-75 (Table 5) and of Sino-Albanian trade in 1971-75 (Table 12) are compatible with estimates made for China. A report on the latter puts Sino-Albanian turnover at 'an annual average of \$125 mn in recent years',<sup>12</sup> but a hazardous estimate puts 1974 turnover at \$220 mn and 1975 at \$170mn (in round figures). As the Appendix indicates, it could be concluded that Albania made heavy purchases from China on credit in 1974, but cut back its buying sharply in 1975, while making an increase in its exports, possibly to the point at which it repaid a small amount of its previous credits. Because China reduced its trade with socialist partners in 1975, that conclusion does not conflict with facts from the Chinese side. That reduction was part of a Chinese policy which kept its turnover with all partners at around \$14 bn in both 1974 and 1975 at a time of rising prices while cutting its deficit with market economies from \$1.3 bn in 1974 to \$700 mn in 1975.<sup>13</sup> If in 1975 trade with China was reduced from the peak reached the previous year, a similar pattern may be found in Albanian trade with market economies, as the following quarterly returns of partners' trade demonstrate (in millions of dollars):<sup>14</sup>

	Albanian	
	Imports (f.o.b.)	Exports (c.i.f.)
1973:		
i.....	7	6
ii.....	12	6
iii.....	15	7
iv.....	10	12
1974:		
i.....	12	9
ii.....	26	15
iii.....	22	19
iv.....	21	17
1975:		
i.....	26	15
ii.....	30	18
iii.....	15	19
iv.....	15	20
1976:		
i.....	9	10
ii.....	11	14
iii.....	10	8
iv.....		

The dismissal of the three ministers on charge of economic affairs in October 1975 (the Chairman of the Planning Commission, the Minister of Industry and Mining and the Minister of Trade), offers a political context for the sudden halving of imports from the second to the third quarter of that year and the continuing low rate of imports from market economies during 1976. The \$9 mn imported in the first quarter of 1976 was the equivalent of two-thirds of Albanian imports in the first quarter of 1973 if the Yugoslav price index shown in Table 4

<sup>12</sup> Nai-Ruenn Chen, 'China's Foreign Trade, 1950-74', in US Congress, Joint Economic Committee *China: a Reassessment of the Economy*, Washington, D.C., 1975, p. 629.

<sup>13</sup> *Ibid.*, p. 645 and *Financial Times* (London) supplement, 'Trade with China', December 3, 1976, p. 35.

<sup>14</sup> IMF data fund.

is applied. Clearly political changes in both Peking and in Tirana induced a reduction Albanian commerce in 1975.

Yugoslavia is included among the market economies in the quarterly data cited above and participated in Albania's buying spree in 1974. First quarter exports from Yugoslavia to Albania were \$3.2 mn and rose in the next two quarters by \$5.9 and \$7.2 mn. After deliveries of \$3.4 mn in the last quarter of 1974, sales in 1975 ran at \$6.3 and \$4.4 mn in the first two quarters, but collapsed to \$1.9 and \$2.3 mn in the last two. The first two quarters of 1976 were \$1.1 and \$2.0 mn respectively. The trend had been upward since the signature of the first long-term trade agreement covering 1971-75 and envisaging sales in both directions of \$114 mn.<sup>15</sup> The target was all but reached with Yugoslav exports at \$52.4 mn and Albanian counterdeliveries at \$60.0 mn (Table 7).

The other socialist partners listed in Table 7 and 8 are the European members of Comecon, which have continued to trade with Albania even though no commercial relations have existed with the USSR since 1963. During the 1971-75 Plan period Albania probably reduced its imports from that group in real terms: applying the Yugoslav price index (Table 4) to the current values in Table 8, Albanian imports from the six countries fell from \$55 mn in 1971 to \$38 mn in 1974 and \$36 in 1975 in the prices of 1970 although current values rose from \$57 mn to \$73 mn. As Table 12 shows those imports are tentatively estimated at 27 percent of Albanian imports of those five years but it also exhibits a favourable balance in Albania's favour, since cumulative exports were \$366 mn.

The country balances are set out, from partner data in national currencies, in detail in Table 7. Bulgaria, Czechoslovakia, Hungary and Poland consistently bought more from Albania than they sold and Romania only converted its deficit into a surplus with its change of foreign-trade policy announced in February 1974. The latter was to purchase more in Comecon currencies (in which Romania stood in credit) in substitution of those for convertible currencies (in which it was in serious deficit). The GDR steadily ran a surplus with Albania and, as its Statistical Administration does not publish a commodity breakdown with Albania, the precise nature of its trade cannot be stated. Albanian earnings in other Comecon currencies (mostly from sales of consumers' goods, for Albanian cigarettes and brandy are in most East European grocers) are probably offset against purchases of equipment bought in Valuta-Marks, and the cost of shipping that machinery across to Adriatic or Black Sea ports for shipment to Durrës or Vlorë possibly absorbs the remainder. It is unlikely that Albania accumulates Comecon currencies in the way that it has built up a credit position in Western banks.

Albania was a net creditor in the sum of \$48 mn by December 1974 in the banks of the Group of Ten and Switzerland but reduced it during its burst of buying that year and for part of 1976. By March 1976 it was in a net credit of \$31 mn. As Table 9 shows, Albania raised its purchases in industrial countries from a fairly stable level in the second half of the sixties; the mean for 1964-70 had been

<sup>15</sup> R. Marmullaku, *Albania and the Albanians*, London, 1975, pp. 104-5. Marmullaku, a Kosovar occupying a senior Party post in Yugoslavia, estimates total Albanian trade at his time of writing between \$230 and \$300 mn, of which half with China (p.114). The estimate of Table 12 is an average of just on \$400 mn for 1971-75 and rather more if the GDR series of Table 1A is accepted.

\$17 mn, against \$6 mn in 1960, 1962 and 1963, emergency imports to offset the stoppage of Soviet supplies in 1961 having been \$12 mn. Commercial credits, particularly from Italy, enabled it to lag the rise in counterdeliveries, the average annual deficit with those countries running at something like half the value of imports in 1970-73. It stepped up export sales in 1974-5 and thereby reduced the proportion of imports uncovered by exports to one-quarter in 1975. Italy has been Albania's major supplier among market economies since the War, although the doubling of sales in 1971-75 (\$8.4 mn to \$16.6 mn) has probably only kept up with inflation. The termination in 1971 of the formal state of war with Greece (Italian forces occupying a puppet-governed Albania having attacked Greece in 1940), brought trade from zero in the sixties to an average of \$2.5 mn in 1971-75 (\$4.78 mn at its 1974 peak). The absence of diplomatic relations with the United Kingdom and the United States virtually excluded trade with those countries. The United States linked Albania with China in its embargo until the relaxation of 1974, when, and in 1975, the United States sold about \$1 mn to Albania. United Kingdom sales have also risen to above the \$1 mn mark in 1974-5.

At levels such as these, Albania contributes very little to East-West trade. As Table 10 shows, Western Europe's exports to Albania in the second half of the sixties were only 0.3 per cent of East-West European exchanges and imports from Albania were just half that share (0.15 per cent). The disparity even on that modest scale nevertheless built up a trade deficit which a recent study has compiled net of shipment costs. Table 11 indicates that over 1965-70 Albania ran a deficit averaging \$7.7 mn annually. Uncorrected deficit data for subsequent years show the following pattern with the European Economic Community (in millions of dollars):<sup>16</sup>

	1971	1972	1973	1974	1975
EEC exports to Albania (c.i.f.) .....	15	16	17	37	43
EEC imports from Albania (f.o.b.) .....	10	10	13	28	26
EEC surplus with Albania .....	5	6	4	9	17

Albania conducts very few exchanges with less-developed countries (LDCs). Exports from the Arab Republic of Egypt were extraordinarily \$3 mn in 1970 but in other years have not touched \$0.5 mn, and those to Libya have been growing, touching \$1 mn in 1974; there were \$0.6 mn exports to Zambia in 1970. Imports from those countries have been much smaller (a peak of \$1.6 mn from Egypt in 1970 is the only significant sum) but imports from Morocco jumped from \$0.7 mn in 1971-3 to \$3.6 mn in 1974 and \$5.7 mn in 1975.

In sum, the last official statement on the direction of Albanian trade from the Polish Central Statistical Office is for 1964 when 93.4 per cent of turnover was with socialist countries. A statistical compendium compiled by the Soviet Institute of the Socialist World Economy (published by the USSR Central Statistical Administration) put the 1965 share at 93.6 per cent.<sup>17</sup> The estimates made for 1971-75 in

<sup>16</sup> IMF data fund.

<sup>17</sup> *Ekonomika stran sotsializma*, Moscow, 1969, p. 147.

Table 12, transferring Yugoslav turnover of \$112 mn to the socialist group, put that latter at 83 per cent. Albanian trade has diversified to that extent, but remains overwhelmingly linked with countries ruled by Communist Parties.

#### D. COMPOSITION OF TRADE

The most detailed data, by five commodity groups for exports and six for imports, probably related to 1968 (Table 14) but a longer series with only three commodity groups is available for exports to 1973 (Table 5). Apart from processing rather more of its farm produce, its export structure is little changed since 1950. Indeed it exported proportionately less products of mining and manufacturing of industrial origin in 1973 than it did in 1950. It is possible that the sale of primary products against equipment (said to have been the policy of Teng prior to his disgrace in the last year of Mao's life) was a count in the indictment of October 1975 against the three economics ministers (Abdyl Kellëzi, Chairman of the State Planning Commission, Koço Theodhosi, Minister of Industry and Mining, and Kiço Ngjela, Minister of Trade). The dismissals were not reported in the Albanian Press at the time, but reports reaching diplomatic missions in Belgrade suggested that the issue was deep-seated in that up to a quarter of the Albanian administration may have been affected.<sup>18</sup> It is speculation that the issue was the degree of trade dependency or the sort of exports that should be promoted. After a decade of the "regime of economy", a more pronounced opening up of trade might have had its defenders. The check to the outburst of importing was coincident with a deterioration in Albania's terms of trade. The only order of magnitude indicated is that it was—

such as to cost our economy tens of millions of leks, because the negative difference of prices [of imports as related to exports] is subsidized by the state.<sup>19</sup>

The vituperative denunciation of the dismissed economic ministers (though not of the Ministers Of Agriculture and of Education who were dismissed in 1976) suggests that major policy matters were involved. Some sign may be found in the new Constitution adopted after their dismissal which reads:

The granting of concessions to, and the creation of foreign economic and financial companies and other institutions or ones formed jointly with bourgeois and revisionist capitalist monopolies and states as well as obtaining credits from them are prohibited in the People's Socialist Republic of Albania.

No government in the world has ever asked its legislature constitutionally to disbar it from raising an external loan. But Albania, after a decade of encouraging self-reliance, has converted exhortation and policy into its fundamental law.

<sup>18</sup> *The Times* (London), October 31, 1975.

<sup>19</sup> *Albania Today*, No. 1, 1976, p. 20.

TABLE 1.—TRADE OF ALBANIA  
[In millions of new valuta leks at current prices]

	At current prices				Exports as percent of imports	In estimated 1970 prices	
	Exports		Imports			Exports	Imports
	Value f.o.b.	Price index	Value c.i.f.	Price index			
1938 <sup>1</sup> .....	33.94	-----	100.4	-----	33.8	-----	-----
1945.....	2.16	-----	8.12	-----	26.6	-----	-----
1946.....	9.54	-----	10.24	-----	93.2	-----	-----
1947.....	23.73	-----	151.34	-----	15.7	-----	-----
1948.....	41.66	80	90.92	72	45.8	52	126
1949.....	29.11	68	64.47	73	45.2	43	150
1950.....	32.39	57	110.28	63	29.4	57	193
1951.....	45.76	75	197.79	78	23.1	61	254
1952.....	65.38	77	158.97	75	41.1	85	212
1953.....	54.94	61	200.14	72	27.5	90	278
1954.....	50.87	63	129.17	71	39.4	81	182
1955.....	65.00	68	214.13	74	30.3	96	289
1956.....	93.04	70	194.00	73	49.0	133	266
1957.....	145.16	72	266.57	82	54.5	202	325
1958.....	146.05	72	393.03	75	37.2	203	524
1959.....	170.06	70	426.47	73	39.9	243	584
1960.....	242.81	71	405.39	74	59.9	342	549
1961.....	242.89	72	361.16	74	67.3	337	488
1962.....	204.56	75	322.94	76	63.3	273	425
1963.....	240.40	76	353.71	79	68.0	316	448
1964.....	299.62	81	490.64	82	61.1	370	598
1965.....	310 (345)	87	539 (539)	87	58.0	356	620
1966.....	326 (364)	89	552 (592)	88	59.0	366	627
1967.....	342 (395)	90	564 (651)	88	61.0	380	641
1968.....	388 (437)	88	577 (701)	88	67.0	441	656
1969.....	397 (478)	92	713 (790)	93	55.0	432	767
1970.....	465 (528)	100	741 (862)	100	63.0	465	741

<sup>1</sup> Repriced at 1958 prices.

Note: The series for 1965-70 in parentheses are from table IA upon the inconsistency of which with Albanian statements the source thereto comments. They are not used for tables 2, 3, 5, or 12.

Source: "Statistical Yearbooks" for the years to 1964. In 1965 a currency reform substituted 1 new lek for 10 old lek, affecting the valuta lek equally (as may be demonstrated from the imports of pharmaceuticals in 1964, which were 35,119,000 leks in "Vjetari statistikor, 1965," p. 341 but 3,512,000 leks in that for 1966, p. 109). The prolongation of the series was by published percentage changes on the data given in old leks (decimated to new leks). 1968 exports were 55 percent and turnover was 47 percent above 1960 (V. Kati in, "Konferenca Kombëtare e studimeve shqetorë, 1969," Tirana, 1970, pp. 171-2), whence imports in 1968 also. 1969 exports were 7 percent above 1968 ("Ezhegodnik BSE," 1970, Moscow, 1970, p. 202). 1968 exports were 10 percent above 1967 ("Economic Survey of Europe in 1968," p. 176); the corresponding annual increments in 1965 and 1966 were each 5 percent, while imports rose 9.8 percent in 1965 ("Survey for 1966," ch. III, p. 3). 1969 imports were 7.1 times those of 1938 and exports were 11.7 times 1938; exports covered 55 percent of imports in that year ("Statistike ekonomike," Tirana, 1971, pp. 384-5). 1970 exports were 14 percent above 1969 (M. Shehu, "Report to the Sixth Party Congress," Tirana, 1971). The cumulative total 1966-70 so compiled, 1,894 mn leks, is 42 percent above that for 1961-65, which the latter source had stated to be nearly 45 percent above. If nearly 45 was 44 percent (as the "Survey for 1970," pt. II, p. 140 assumes), 1966-70 cumulative exports were 1,918 mn leks. Turnover for that period rose 49 percent (Shehu, op. cit.) implying 5,065 mn leks, and, by difference, cumulative imports of 3,147 mn leks. A later figure for 1968 exports (61.2 percent above 1963) which implied 387.5 mn leks in that year (from A. Hoxhi, "Finansat dhe kreditet në shërbim të revolucionit socialiste në RPSH," Tirana, 1973, p. 210) was used to revise the 1968 estimate, so that it came in line with the aggregate 1966-70 and the statement reproduced in the "Survey for 1968," loc. cit., that exports in that year were 67 percent of imports. To the 1970 derived exports of 453 mn were added the 12 mn leks to make the cumulative total for 1966-70 agree with Shehu's statement. Imports 1966 and 1967 were interpolated and 1970 derived by difference from the cumulative quinquennial total. Indexes of exports and index prices are for Yugoslavia from "Statisticki godišnjak Jugoslavije, 1958," tables 2-177 and 178; 1960, tables 2-226 and 227; 1970, tables 113-3 and 4 and 1975, tables 114-3 and 4. They are not available for years preceding 1948, first appearing in the Yearbook, 1957.<sup>1</sup>

TABLE 1A.—GERMAN DEMOCRATIC REPUBLIC STATISTICS ON ALBANIAN FOREIGN TRADE

[In millions of valuta units]

Year:	Total imports		Total exports		Balance dollars
	Rubles	Dollars	Rubles	Dollars	
1963	63.7	70.8	43.3	48.1	-22.7
1964	88.3	98.1	53.9	59.9	-38.2
1965	97.0	107.8	62.0	68.9	-38.9
1966	106.5	118.3	65.5	72.8	-45.5
1967	117.0	130.0	71.0	78.9	-51.1
1968	126.0	140.0	78.5	87.2	-52.8
1969	142.0	157.8	86.0	95.6	-62.2
1970	155.0	172.2	95.0	105.6	-66.6
1971	158.0	190.6	98.0	118.2	-72.4
1972	180.0	217.1	100.0	120.6	-96.5

Source: Statistisches Jahrbuch der DDR, 1972, j.p. 24\*, 1974, p. 24\*; 1965-67 data also cited in Rozwby gospodarczy krajow RWPG 1950-68, Warsaw, 1969, p. 113. Both are publications of the National Statistical Office. The series is, however, largely inconsistent with the relationships cited in Albanian sources as the following comparisons with those reproduced in the sources to table 1 in the order of statement in the latter. It is possible that Albanian statements which show ratios below those of the GDR series are volume data, whereas the latter are explicitly at current values and that in the one case where the ratio is above the GDR series a price decline took place. Until these issues could be clarified, it was preferred to use the series as derived in table 1. Statements in a publication of the U.S.S.R. Statistical Administration vary the totals put out by the GDR Statistical Office: Ekonomika stran sotsializma, 1969, p. 144, put 1965 imports at 97, exports at 57; 1966 imports at 106.2 and exports at 65.7.

	Albanian statement	Derived from GDR series
Exports: 1968/1960	1.55	1.798
Turnover: 1968/1960	1.47	1.753
Exports (U.S.S.R.): 1969/1968	1.07	1.096
Exports (ECE): 1968/1967	1.10	1.10
Exports (ECE): 1965/1966	1.05	1.15
Exports (ECE): 1966/1967	1.05	1.056
Imports (ECE): 1965/1966	1.098	1.098
Imports: 1969/1938	7.1	7.9
Exports: 1969/1938	11.7	14.1
Exports/imports: 1969/1969	.55	.60
Exports: 1970/1969	1.14	1.10
Exports: 1966-70/1961-65	1.44	1.65
Turnover: 1966-70/1961-65	1.49	1.88
Exports: 1968/1963	1.612	1.81

TABLE 2.—QUINQUENNIAL TRADE VALUES IN ALBANIA

[In billions of new valuta leks at current prices]

	Exports		Imports		Turnover	
	5 yr	Annual	5 yr	Annual	5 yr	Annual
1961-65	1,332	266	2,067	412	3,399	679
1966-70 plan	1,812	363	2,646	529	4,458	892
1966-70	1,918	384	3,147	629	5,065	1,013
1971-75 plan	3,203	640	6,218	1,244	9,421	1,884
1971-75	3,357	671	5,570	1,114	8,927	1,785
1976-80 plan	4,196	839				

Source: Shehu, Report to the Seventh Party Congress, quoted the 1971-75 quinquennial increase in exports to be 75 percent over 1966-70 and the plan for 1976-80 to be 24 to 26 percent (here taken as 25 percent) over 1971-75. Repeating this ratio, Rruga e Partise, No. 8, 1976, p. 12, added that imports had risen 77 percent over the same period. The 1966-70 plan was for an increase for the quinquennium over 1961-65' of 31 percent for turnover, 36 percent for exports and 28 percent for imports (v. Kati, in Konferenca kombetare e studimeve shogerore, 1969, Tirana, 1970, p. 172). The 1971-75 plan was to be for a turnover 86 percent and 67 percent for exports above 1966-70 (Q. Shehu, staff of Ministry of Trade, Albania Today, No. 6, 1972, p.44).

TABLE 3.—*Rough estimates of aid to Albania*

[Millions of U.S. dollars at current prices]

(1) UNRRA 1945-48.....	1 26
(2) Yugoslavia 1945-48.....	33
(3) USSR 1947-61.....	<sup>2</sup> 156
(4) Other East Europe 1948-61.....	133
(5) China 1959-75.....	838
(6) Western commercial credits 1965-75.....	94

<sup>1</sup> Of which from the United States: \$20.4 mn.<sup>2</sup> In addition technical and military assistance: approx. \$100 mn.

Source: see text for Yugoslavia, USSR and China. The total Albanian trade deficit with all countries 1951-60 was 15.1 bn leks (Table 1), of which with the USSR 8.1 bn (see text table), or 54 per cent; since Soviet aid was \$156 mn that of other East European states would have been \$133 mn. Cooper's maximum estimate of Chinese aid to Albania is \$800 mn (see text). The trade deficit with Western Europe was cumulated from Table 10 for 1965-70 at \$46 mn and from Table V-7 at \$48 mn for 1971-75;

TABLE 4.—INDEXES OF EXPORT AND IMPORT PRICES FOR YUGOSLAVIA<sup>1</sup> (1970=100)

	Exports	Imports
Year:		
1971.....	105	103
1972.....	111	110
1973.....	132	131
1974.....	175	191
1975.....	191	202
Average 1971-75.....	143	147
Average 1966-70.....	92	91
Average 1961-65.....	78	80

Source: Statisticki godišnjak, 1976, tables 114-3 and 114-4; and table 1.

TABLE 5.—CHINESE AID TO ALBANIA

[In millions of dollars]

	Current prices	1970 prices
Third plan period, 1961-65.....	146	187
Fourth plan period, 1966-70.....	207	227
Fifth plan period, 1971-75.....	485	330
Total 1961-75.....	838	744

Source: Current priced aid: see text, except that 1966-70 was computed as the \$245,000,000 quinquennial deficit less \$39,000,000 deficit with Western Europe shown in table 10; import price index from table 4.

TABLE 6.—SOCIALIST COUNTRIES IN ALBANIAN TRADE RETURNS

[In millions of new valuta leks at current prices]

	1951	1955	1960	1964
Exports to:				
Bulgaria.....	1.8	3.5	8.0	3.9
China.....			10.4	119.6
Czechoslovakia.....	8.6	11.0	39.0	57.1
German Democratic Republic.....		6.5	23.5	30.4
Hungary.....	5.2	8.5	17.9	8.2
Korean Democratic Republic.....				6.3
Poland.....	4.1	6.3	13.7	29.1
Romania.....	1.2	2.0	3.2	12.0
U.S.S.R.....	24.1	27.1	121.0	
People's Republic of Vietnam.....			1.3	8.0
Yugoslavia.....		3.0	2.0	6.8
Imports from:				
Bulgaria.....	2.1	12.1	13.4	4.0
China.....		6.3	34.9	308.6
Czechoslovakia.....	25.4	31.2	39.2	47.2
German Democratic Republic.....	4.3	30.7	27.2	25.9
Korean Democratic Republic.....				2.9
Hungary.....	13.0	21.7	12.8	11.8
Poland.....	13.3	14.3	17.1	36.9
Romania.....	20.9	13.2	10.7	11.8
U.S.S.R.....	117.0	78.3	228.3	
People's Republic of Vietnam.....				1.0
Yugoslavia.....		1.0	1.5	5.4

Source: Vjetari statistikor, 1965, pp. 314-5.

TABLE 7.—ALBANIAN TRADE AS RECORDED BY SOCIALIST PARTNERS

[In millions of national devisa/valuta units]

	1960	1965	1970	1971	1972	1973	1974	1975
<b>Bulgaria:</b>								
Exports.....	3.1	1.2	6.2	6.9	7.3	6.6	7.1	<sup>1</sup> (7.0)
Imports.....	1.5	2.7	6.9	7.4	7.8	6.9	9.3	<sup>1</sup> (7.5)
Balance.....	1.6	1.5	-7	-5	-5	-3	-2.2	<sup>1</sup> (-5)
<b>Czechoslovakia:</b>								
Exports.....	57.0	63.0	91.0	132.0	114.0	131.0	126.0	121.0
Imports.....	50.0	72.0	131.0	138.0	122.0	138.0	164.0	141.0
Balance.....	7.0	-9.0	-40.0	-6.0	-8.0	-3.0	-38.0	-20.0
<b>German Democratic Republic:</b>								
Exports.....	21.0	21.8	25.8	32.5	33.0	33.6	36.6	} *81.5
Imports.....	18.2	25.2	26.5	29.8	28.5	24.8	42.1	
Balance.....	2.8	3.4	.7	2.7	4.5	8.8	5.5	
<b>Hungary:</b>								
Exports.....	28.3	23.1	29.1	32.6	46.2	53.6	83.6	80.1
Imports.....	45.0	28.4	51.3	86.1	89.3	91.1	141.7	137.1
Balance.....	-16.7	-5.3	-22.2	-53.5	-43.0	-37.5	-58.1	-57.0
<b>Poland:</b>								
Exports.....	13.2	20.5	32.2	29.6	39.0	36.5	31.6	34.4
Imports.....	12.2	25.1	32.2	40.2	40.5	42.9	45.6	59.8
Balance.....	1.0	-4.6	0	-10.6	-1.5	-6.4	-14.0	-25.4
<b>Romania:</b>								
Exports.....	11.7	18.5	18.7	26.9	30.6	39.6	55.1	42.7
Imports.....	4.4	15.1	20.6	30.4	38.4	40.9	52.9	38.5
Balance.....	7.3	3.4	-1.9	-3.5	-7.8	-1.3	-2.2	-4.2
<b>Soviet Union:</b>								
Exports.....	39.1							
Imports.....	21.8							
Balance.....	17.3							
<b>Yugoslavia:</b>								
Exports.....	.2	4.8	2.3	4.1	6.5	7.2	19.7	14.9
Imports.....	.4	1.5	3.0	4.7	5.4	10.2	17.8	21.9
Balance.....	-.2	3.3	-0.7	-0.6	1.1	-3.0	1.9	-7.1

<sup>1</sup> From returns supplied to GATT Secretariat; approximate due to conversion from dollar values.<sup>2</sup> Series changed to turnover basis in both Statistisches Jahrbuch, 1976, p. 266 and Taschenbuch, 1976, p. 106.

Source: Bulgaria: Statistichesky godishnik, 1973, pp. 337-8, 1974, pp. 310-1, Czechoslovakia: Facts on Czechoslovak Foreign Trade, 1960, p. 117, 1973, p. 87, 1974, p. 91, GDR: Statistisches Jahrbuch, 1975, pp. 264-5, 1976, p. 266; Hungary: Statisztikai évkönyv, 1975, pp. 259-60; Poland: Rocznik statystyczny, 1976, pp. 341-2; Romania: Anuarul statistic, 1976 p. 376; Soviet Union: Vneshnyaya torgovlya, 1961, pp. 73, 77; Yugoslavia: IMF data fund (national series in Statistika spoljne trgovine, 1960, pp. 18-20, 1965, pp. 20-2, 1970, pp. 22-4 and 1975, pp. 24-6).

TABLE 8.—ALBANIAN TRADE WITH SOCIALIST PARTNERS, 1971-75

[In millions of dollars]

	1971	1972	1973	1974	1975	1971-75
<b>Imports from:</b>						
Bulgaria.....	6.4	6.8	6.8	7.3	(7.0)	34.3
Czechoslovakia.....	19.9	17.2	21.9	21.1	20.9	101.0
German Democratic Republic.....	14.6	16.1	18.3	14.9	(16.3)	80.2
Hungary.....	3.0	4.3	5.9	8.9	9.4	31.5
Poland.....	8.0	10.6	11.0	9.9	10.4	49.9
Romania.....	4.9	5.5	8.0	11.1	8.6	38.1
<b>Total.....</b>	<b>56.8</b>	<b>60.5</b>	<b>71.9</b>	<b>73.2</b>	<b>72.6</b>	<b>335.0</b>
<b>Exports to:</b>						
Bulgaria.....	6.9	7.2	7.1	9.6	(8.0)	38.8
Czechoslovakia.....	20.8	18.4	21.4	27.5	24.3	112.4
German Democratic Republic.....	13.4	13.9	13.4	10.1	(16.3)	67.1
Hungary.....	8.0	8.3	10.0	15.1	16.1	57.5
Poland.....	10.9	11.0	12.9	14.3	18.0	67.5
Romania.....	5.5	6.9	8.2	10.6	7.7	38.9
<b>Total.....</b>	<b>65.5</b>	<b>65.7</b>	<b>73.0</b>	<b>87.2</b>	<b>74.2</b>	<b>365.6</b>
<b>Balance.....</b>	<b>8.7</b>	<b>5.2</b>	<b>1.1</b>	<b>14.0</b>	<b>1.6</b>	<b>30.6</b>

Note: As exchange rates varied during years following 1972, application of end year rates does not precisely reflect actual dollar equivalents.

Source: Table 6 converted at official exchange rates at end of each year as shown in UN. Statistical Yearbook, 1975, pp 704-5, supplemented by end 1975 quotations.

TABLE 9.—MARKET-ECONOMY PARTNERS TRADE WITH ALBANIA

[In millions of dollars]

	1960	1965	1970	1971	1972	1973	1974	1975
<b>Industrial countries:</b>								
Exports.....	4	19	19	22	23	32	49	61
Imports.....	0	2	9	12	12	17	35	44
<b>Balance.....</b>	<b>4</b>	<b>17</b>	<b>10</b>	<b>10</b>	<b>11</b>	<b>15</b>	<b>14</b>	<b>17</b>
<b>Other countries:</b>								
Exports.....	1	2	5	6	9	11	32	25
Imports.....	1	3	5	9	8	16	25	27
<b>Balance.....</b>	<b>0</b>	<b>-1</b>	<b>0</b>	<b>-3</b>	<b>1</b>	<b>-5</b>	<b>7</b>	<b>-2</b>
<b>All reporting market economies:</b>								
Exports.....	5	21	24	28	32	43	81	86
Imports.....	1	5	13	21	20	33	60	71
<b>Balance.....</b>	<b>4</b>	<b>16</b>	<b>11</b>	<b>7</b>	<b>12</b>	<b>10</b>	<b>21</b>	<b>15</b>

Note: OECD partner returns show the following series:

	1974	1975	1976
Exports to Albania.....	54.4	64.6	39.5
Imports from Albania.....	40.5	48.0	38.8
Balance with Albania.....	13.9	16.6	0.7

Source: IMF data fund.

TABLE 10.—WESTERN EUROPE'S TURNOVER WITH ALBANIA

[In millions of dollars]

	1960	1965	1966	1967	1968	1969
<b>Exports:</b>						
Albania.....	4	11	13	11	16	19
All East Europe.....	2,047	3,227	3,641	4,225	4,561	5,101
<b>Imports from:</b>						
Albania.....	1	4	5	6	9	10
All East Europe.....	2,308	3,709	4,177	4,346	4,563	5,079

Source: Statistical annexes B and C to Economic Bulletin for Europe (annual).

TABLE 11.—*Albanian deficit with Western Europe*

[Millions of dollars adjusted for both flows f.o.b.]

1965.....	7. 48
1966.....	7. 74
1967.....	5. 12
1968.....	7. 01
1969.....	10. 08
1970.....	8. 84

Source: O. Betcher, *La balance des paiements de l'Europe occidentale avec l'Europe orientale*, Geneva, 1976, pp. 161-6.

TABLE 12.—ESTIMATED DIRECTION OF ALBANIAN TRADE, 1971-75

[In millions of dollars]

	Exports	Imports	Balance
Industrial market economies.....	120	168	-48
Other market economies (including Yugoslavia).....	85	75	10
Comecon members.....	366	335	31
China.....	175	66 0	-485
Total.....	746	1, 238	-492

Source: Exports c.i.f. of market economies to Albania from table 9 less 10 percent to adjust to imports f.o.b. by Albania; imports f.o.b. market economies from Albania from table 9; trade of Comecon members from table 8, since they value both imports and exports f.o.b. seller's port or frontier (see methodological notes in Comecon Secretariat, *Statistichesky ezhegodnik*, 1976, p. 479). Total trade in valuta leks converted at 4.50 to the dollar (the 1971-75 mean rate from table 13) from table 2.

TABLE 13.—NOMINAL RATE OF EXCHANGE OF THE LEK

[Leks per unit at end of year]

Year:	U.S. dollar	Soviet ruble
1960.....	1 50. 00	1 125
1965 <sup>1</sup> .....	4 5. 00	5 5. 56
1970.....	5. 00	5. 56
1971.....	4. 61	5. 56
1972.....	4. 61	5. 56
1973.....	4. 14	5. 56
1974.....	4. 14	5. 56
1975.....	4. 99	5. 56
1976.....	5. 99	5. 56

<sup>1</sup> Noncommercial rate: 125 leks.

<sup>2</sup> The Soviet ruble was exchanged at the rate of 10 old for 1 new in 1961: the rate for 1960 is in terms of new rubles for ease of reference; 1963 changed to 8.732 leks.

<sup>3</sup> Between August 16 and Oct. 15, 1965, 10 old leks were exchanged for 1 new lek.

<sup>4</sup> Noncommercial rate: 12.50 leks.

Source: United Nations Statistical Yearbook, 1970 p. 608; IMF, *International Financial Statistics*, Dec. 1976; *Financial Times*, Jan. 23, 1976 and Dec. 24, 1976 (Bank of America quotations); *Albania Today*, No. 1, 1974, p. 16.

TABLE 14.—*Composition of Albanian trade in 1968*<sup>1</sup>

[Percentages]

Exports:		Imports:	
Oil products.....	24	Engineering goods.....	37
Minerals and their products.....	31	Raw materials and building materials.....	8
Food industry products.....	15	Fuel and metals.....	24
Agricultural produce.....	20. 5	Chemicals.....	10
Artisan products.....	1. 5	Foodstuffs.....	11
		Manufactured consumers' goods.....	10

<sup>1</sup> Probably 1968, since source wrote of "today".

Source: V. Kati, in *Konferenca kombëtare e studimeve shoqërore*, 1969, Vol. 4, Tirana, 1970, pp. 173-4

TABLE 15.—ALBANIAN EXPORT COMPOSITION

[In percent]

	1950	1960	1970	1973
Manufactures of industrial origin.....	63.7	56.6	60.8	58.4
Manufactures of agricultural origin.....	12.1	27.2	22.7	27.2
Unprocessed from produce.....	24.2	16.2	16.5	14.2

Source: 30 vjet, p. 179.

## APPENDIX

## CALCULATION OF ALBANIAN SHARE IN ESTIMATES OF CHINESE TRADE

In the Compendium of Papers submitted to the Joint Economic Committee of the U.S. Congress in 1975, *China: a Reassessment of the Economy* Nai-Ruenn Chen, "China's Foreign Trade, 1950-74" (pp. 617-52) made the following estimates of Chinese trade with Albania, Cuba and Yugoslavia (a group he defined as "other socialist countries"), in millions of dollars.

	Chinese imports	Chinese exports		Chinese imports	Chinese exports
Year:			Year:		
1956.....	5	10	1966.....	110	160
1957.....	5	10	1967.....	100	140
1958.....	5	0	1968.....	85	145
1959.....	0	5	1969.....	95	170
1960.....	40	15	1970.....	100	170
1961.....	95	110	1971.....	95	165
1962.....	100	125	1972.....	70	195
1963.....	95	125	1973.....	145	200
1964.....	105	160	1974.....	320	305
1965.....	125	200			

His practice of rounding to the nearest \$5 mn obscures the detail of the earlier years, but the aggregate of his trade balances given an order of magnitude for confrontation with Table 5 (in millions of dollars at current prices)

	Chen	Kaser
Fiscal year:		
1961-65.....	200	146
1966-70.....	295	207
1971-75.....	1 235	485

1 1971-74.

The excess of Chen's magnitudes over those of the present writer in 1961-70 could be due to assistance to Cuba in the period when Sino-Cuban relations were politically close and the deficiency in 1971-74 to commercial credits by Yugoslavia and a possible repayment of previous credits by Cuba.

Albania can be identified for 1974 and 1975, a particularly crucial period, in Chen's and later estimates of Chinese trade by elimination of other partners. He furnishes estimates of trade with all socialist countries, separating the USSR, six countries of Eastern Europe and the Asian socialist countries. 1974 totals were given as 'provisional', and *Current Scene*, September 1976 (here reproduced from *Financial Times*, December 3, 1976), offers final estimates for 1974 and estimates for 1975. The relevant totals are as follows (millions of dollars):

	Chinese exports to all Socialist countries	Chinese imports from all Socialist countries
Chen:		
1973.....	995	705
1974 <sup>1</sup> .....	1, 370	930
C.S.:		
1974.....	1, 430	970
1975.....	1, 360	1, 010

<sup>1</sup> Provisional.

*Current Scene* estimates Chinese trade with socialist partners other than the USSR and the six East European states as below. Chen shows 1974 trade with the Asian socialist partners; 1975 trade with them is estimated pro rata to the change in all Chinese trade with socialist partners (a 5 per cent reduction in Chinese exports and a 4 per cent rise in imports). Cuban trade with socialist countries other than Comecon members was \$185 mn each way in 1974 and \$127 mn exports and \$129 mn imports in 1975 (Comecon Secretariat, *Statistichesky Ezhegodnik, 1975*, p. 325 and *1976*, p. 341 respectively). Three-quarters was assumed to be with China. The balance interpreted as Chinese trade with Albania (in millions of dollars) was as shown below:

	1974		1975	
	Exports	Imports	Exports	Imports
Mongolia, North Korea, and North Vietnam.....	580	155	550	160
Cuba.....	139	139	95	97
Albania (by difference).....	147	72	72	96
<b>Total</b> .....	<b>866</b>	<b>366</b>	<b>717</b>	<b>353</b>

The hazardous estimate of 1975 Chinese trade with the Asian socialist countries renders equally uncertain the residual as derived for Albania, but the evidence is that unless the pattern of trade with the Asian partners altered sharply in 1975, Albania received only half as much imports from China as in 1974 and actually repaid some debts, by selling about one-third more to China than in 1974. The calculation should not be affected by transport charges, since the Chinese estimates are fob for exports and cif for imports, such that the standard East European practice of fob buyer and seller is reflected without adjustment.

## BILATERAL BUSINESS COUNCILS WITH EAST EUROPEAN COUNTRIES

BY EDWARD T. WILSON AND DONALD J. HASFURTHER OF THE  
U.S. CHAMBER OF COMMERCE

Well before the issue of East-West trade became topical in the United States, the Chamber of Commerce of the United States had begun studying the opportunities for trade with the Soviet Union and Eastern Europe and the role the Chamber might play in helping the U.S. business community take advantage of the considerable potential for trade with this part of the world. The uniqueness of the Eastern European trading system, together with the widely held perception in the U.S. that progress in the commercial field must necessarily await progress on political issues, had inhibited a great number of U.S. firms from even considering the opportunities the Eastern European market had to offer. With the exception of a few experienced East-West traders in the United States, these opportunities were going to enterprising firms in Western Europe.

As some of the rigidities in the U.S. relationship with Eastern Europe began to disappear in the 1960's, U.S. business interest in Eastern European markets developed apace. Following an opinion survey which indicated overwhelming support for expanding trade with Eastern Europe among Chamber membership, the Chamber of Commerce decided to embark on efforts to stimulate discussion within the U.S. business community on East-West trade issues. In this context, the Chamber became the first organization of national prominence to come out unequivocally in favor of nondiscriminatory tariff and credit status for the Eastern European nations.

Despite the lack of this status for all of the countries except Poland and Yugoslavia, Eastern Europe as a region had become by the early 1970's the most rapidly expanding market in the world, not only for U.S. agricultural commodities, but also for capital goods. Eastern Europe was also developing into a significant source of needed raw materials and industrial products and, during the energy shortage of the winter of 1973-74, it served as a valuable supplemental and non-OPEC source of energy for the United States.

With this increase of economic activity came a corresponding increase of trade-related problems. The Eastern European market presented American companies with a vast array of unaccustomed trade obstacles. The very fact that market criteria play a limited role in the decision-making process in the economies of Eastern Europe meant that economic data required for market research in the Western sense was generally lacking. Similarly, the lack of information indicating a clear delineation in foreign trade responsibilities for personnel in foreign trade-related enterprises often led to long and unnecessary delays in commercial transactions; sometimes even listings of those individuals with authority to conclude contracts were lacking.

Limitations on access to end-users in Eastern Europe presented additional obstacles to close commercial cooperation. Many of the problems arose simply from unfamiliarity on the part of U.S. business representatives with the nuances of doing business in Eastern Europe, and conversely from Eastern European unfamiliarity with the U.S. market.

After studying these problems, the Chamber of Commerce concluded it was necessary to spend a greater deal of time and energy in promoting a favorable climate for U.S. commercial transactions with Eastern Europe. What was needed was some private sector vehicle to assist the American business community in identifying problem areas and suggesting solutions and to improve the prospects for trade and industrial cooperation. The idea of establishing with the countries of Eastern Europe joint economic councils in order to facilitate more direct contacts between commercial leaders on both sides appeared to lend itself to this need. Such private groups, composed of business leaders in the U.S. and key commercial leaders of Eastern Europe, could provide regular and recognized channels of dialogue—channels which had too often been lacking.

The concept of joint economic councils soon received the endorsement of the United States Government and the governments in Eastern Europe. The next step for the Chamber of Commerce was to contact its counterparts in Eastern Europe in order to further develop this concept and to agree to the creation of bilateral relationships which would provide for the establishment of these councils. The first council to be formed was the Romanian-U.S. Economic Council. The agreement for its establishment was formally signed in December, 1973, in the presence of the President of Romania, Nicolae Ceausescu, a number of ranking Administration officials, business leaders, and the press.

An examination of this agreement reveals some of the means the two chambers of commerce envisaged to achieve their goal of stimulating broader two-way flows of trade and industrial cooperation. As enumerated in the text, these included:

- The publication and regular exchange of economic and commercial information, including commercial catalogues, brochures and other materials for distribution to interested enterprises.

- The organization of round-table and other types of seminars between businessmen and technical experts of the two countries.

- Advising commercial enterprises desiring to establish joint ventures in both countries as well as in third markets.

- Advice and assistance to enterprises interested in opening commercial offices in both countries.

- Promotion of participation in fairs and exhibitions organized in both countries.

Following the signing ceremony, a founders meeting for the U.S. section was held in Washington which elected a six-man Executive Committee, chaired by Gabriel Hauge, Chairman of the Manufacturers Hanover Trust Company of New York. The twenty-five U.S. firms and two trade associations selected to become charter members of the Council were chosen primarily on the basis of their actual or potential involvement in Romania. This involved consultation with knowledgeable Romanian authorities and a conscious effort by the

U.S. section to see that a broad range of commercial sectors was represented. It also involved special attention to geographic representation and to the wish to secure participation by firms of all sizes, not just the largest.

The first plenary meeting of the Council was held in Bucharest in May, 1974. Forty-four executives attended, including many chief executive officers, making it the highest ranking U.S. corporate group ever to visit Romania at one time. During the course of the proceedings, the two sections agreed to consider the exchange of commercial traineeships and the establishment of a commission of experts to facilitate the prearbitral resolution of commercial disputes. The Romanian section also agreed to supply detailed data in order to clarify for the U.S. section certain provisions of the Romanian joint venture legislation. The original U.S. text on the subject, prepared by Mr. Jay Burgess, was subsequently issued as a special publication of the Council: *Romanian-U.S. Joint Ventures: Background for Implementation*. A protocol was also issued at the Council's first joint session condemning artificial restraints to trade and calling for greater cooperative efforts to simplify commercial procedures and practices. The plenum ended on a high note for the U.S. attendees with an invitation from President Ceausescu to meet with him at the presidential palace. This meeting, which lasted over an hour, elicited some useful substantive discussions and demonstrated the continuing interest which the Romanian chief of state had shown in the work of the Council.

With the successful establishment of the Romanian-U.S. Economic Council came increased interest on the part of other Eastern European Chambers of Commerce and governments in forming similar councils for their countries. In September, 1974, Ivan Popov, Deputy Prime Minister and the highest ranking official of the People's Republic of Bulgaria ever to visit Washington, participated in the ceremonies establishing the Bulgarian-U.S. Economic Council. The level of the delegation, as in the case of the Ceausescu visit of the year before, did much to enhance the interest of the U.S. business community in the Council and to escalate the level of corporative commitments in the United States.

The following month, during a visit of First Secretary Edward Gierek of Poland, a third council, the Polish-U.S. Economic Council was formed. Once again, this level of commitment on behalf of an Eastern European government proved invaluable to the success of the Council. This commitment was renewed a year later in September, 1975, during a visit of the U.S. section to Warsaw. First Secretary Gierek was again on hand to greet the delegation and offer his encouragement to the work of the Council.

Joint councils were established with the Hungarians in March, 1975, and with the Czechoslovaks in October, 1975. As in the case of the Romanian-U.S. Economic Council, conscious efforts were undertaken to achieve the broadest possible U.S. participation in terms of industry, size and geographical distribution. Initial recruitment efforts followed a sectoral approach, with an early identification of ten to twenty industrial branches of high priority to the joint trading relationships with each country. Efforts were then undertaken to find several American firms in each of these sectors

which would be willing to commit a top corporate official, preferably one with recognized personal experience in dealing with officials of the country involved. In the interest of establishing direct bilateral contracts, membership efforts were concentrated on U.S.-based executives and firms not involved or third party representation.

The establishment of the five joint councils helped to intensify commercial dialogue between the U.S. business community and the East. Concerted efforts were made to deal with many of the problems acting as barriers to a further expansion of East-West trade and cooperation. American members have urged East European governments to improve the process by which they made available pertinent and timely commercial information. Also the joint council sessions have regularly provided for new clarifications of Eastern European legislation affecting trade and cooperation: for example, the conditions and criteria for establishing Western offices in Eastern European capitals. Similarly, the council sessions have served as fora for explanations of U.S. trade regulations, most importantly those in the area of unfair trade practices, such as antidumping and countervailing duty regulations.

In addition to striving for freer exchanges of commercial information, the joint councils have made concerted efforts in the area of dispute settlement. As an outgrowth of the expansion of commercial contracts between East and West, an increasing number of disputes has arisen over such contract provisions as force majeure, performance guarantees, and compliance procedures. The firms involved in such disputes are often anxious to avoid the time-consuming route of formal arbitral or other legal proceedings. Council members felt a single nonbinding mechanism which could expedite cases rapidly and impartially would be useful, especially if it enjoyed the confidence of business representatives in both countries and the prestige conferred by council sponsorship.

Working with the American Arbitration Association and David Morse, an attorney and former Secretary General of the International Labor Organization, the Council staff developed such a procedure. It consisted of a Conciliation Commission, composed of six members, three American and three Eastern European, appointed for a period of three years by the plenary session of a council. For each dispute a Conciliation Panel is to be established consisting of one conciliator chosen by each party to the dispute from among the members of the Conciliation Commission. After having examined the case, the Panel is mandated to propose a solution to the dispute. To date, numerous Romanian-U.S. commercial contracts contain clauses providing for use of the conciliation procedure adopted by the Romanian-U.S. Economic Council and the U.S.-Romanian Long-Term Agreement on Economic, Industrial and Technical Cooperation refers specifically to this option. Conciliation procedures are also presently under consideration in several of the other joint councils.

The U.S. Chamber-sponsored councils have also undertaken projects to develop lists of common commercial terminology. National sections on both sides have submitted draft lists of terms commonly used in international sales contracts for the purpose of developing a uniform list of such terms. Such lists have already been used to avoid misunderstandings and expedite negotiations.

In connection with the goal of encouraging the broadest possible participation in East-West trade, the councils have sponsored several workshops on doing business with Eastern Europe. The first of these, in May, 1976, offered 83 American firms, many of them small and new-to-market, the opportunity for candid discussions with a number of the most experienced U.S. East-West traders on "Doing Business with Poland." In addition to these executives, the list of speakers included members of the high-level Polish delegation attending the second Polish-U.S. Economic Council joint session as well as U.S. officials responsible in East-West trade. The moderator was Mitchell Kobelinski, Administrator of the U.S. Small Business Administration. The workshop discussions sought to identify the common problems faced by U.S. negotiators in finalizing sales contracts with Polish enterprises as well as those encountered by Polish foreign trade organizations in penetrating the U.S. market.

This workshop was followed by another in December, 1976, co-sponsored by the East-West Trade Council and the Romanian-U.S. Economic Council on U.S.-Romanian trade. Once again the workshop contributed to a remarkably open dialogue on problems arising in trade and cooperation between U.S. and Romanian enterprises. More of these undertakings are expected both in the United States and in Eastern Europe, and they should contribute to wider understanding of the practical, "nuts and bolts" issues involved in East-West commercial cooperation.

Another of the achievements of the joint councils has been their contribution to the two-way flow of people between the United States and Eastern Europe. Hundreds of visits by U.S. business representatives, which might otherwise have been postponed or not taken place at all, can be ascribed to the initiatives of these councils. By the same token, many high-level Eastern European government decisions to send delegations to this country have been based in good measure on the incentive provided by council meetings and related special events. In addition to the doing business workshops, the latter have included speaking engagements and special receptions hosted by council members in various cities of the United States.

In the area of commercial policy formulation, the councils have provided a logical complement to efforts to reach satisfactory resolution of the many complex issues facing government negotiators. Not only have joint council sessions provided useful opportunities for officials on both sides to clarify existing policies and to announce new ones, but also between sessions there has been an almost continuous interface between council members and staff, and the various responsible government agencies. U.S. section members, for example, have benefited from regular briefings by Administration country experts, both in Washington and at U.S. diplomatic posts in Eastern Europe. Upon their return from joint sessions abroad, the U.S. section members have in turn debriefed Administration officials—as members of the Executive Committee of the U.S. section of the Romanian-U.S. Economic Council did with Treasury Secretary Simon in June, 1976.

As a convenient collection point for sounding business community opinion, the views of U.S. council members have frequently been solicited by Administration officials contemplating new policy. For example, on the eve of negotiations on a treaty on the avoidance of

double taxation with Hungary, the U.S. section of the Hungarian-U.S. Economic Council was asked to conduct a referendum on the pros and cons of such an agreement.

With those Eastern European countries where joint economic commissions have been established on the governmental level—Poland and Romania—council reports have been delivered as a regular agenda item for commission meetings, and council members have been asked to assist in the implementation of jointly agreed measures.

This government-private sector interface on the U.S. side has by no means been limited to the Administration. As in the case of the Polish-U.S. Economic Council, members of Congress have been generous in meeting with visiting council delegations, both separately and collectively. Observers from Capitol Hill have been welcomed at council sessions, both in Washington and in Eastern Europe, and members of Congress like Dan Rostenkowski have addressed them.

U.S. sections of the councils have also been asked to testify before Congressional Committees—Senate Finance, House Ways and Means, the Helsinki Commission—and the results have been helpful to all concerned. The Romanian-U.S. Economic Council, for example, played an active rôle in the process leading to the Congressional approval and extension of the U.S.-Romanian Agreement on Trade, which provided for MFN status for Romanian goods entering the United States; the Czechoslovak-U.S. Economic Council was active in efforts to find a common ground between representatives of the Administration and the Congress looking toward a settlement of outstanding claims with Czechoslovakia.

These bilateral business councils are, however, but modest beginnings. There should be no illusions about the roles they can be expected to assume. They are essentially modest undertakings, limited in size and scope of activity. They will not become involved in putting together specific transactions; they are not intended to occupy central clearinghouse functions in the overall U.S. economic relationship with each Eastern European country. Nor can they be expected to replace the policy-making functions of the governments concerned.

The councils are, nevertheless, demonstrable evidence that American business, despite other pressures and conflicting world-wide commitments, is actively interested in maintaining the dialogue with Eastern Europe—that it wants to pursue not just specific deals but an improvement in the entire framework of commercial relations with economic systems radically different from our own.

## EAST-WEST FOREIGN TRADE BOARD

By MARJORY E. SEARING

The formation of the East-West Foreign Trade Board was a direct result of an amendment to the Trade Act of 1974 by Senator Long. The purpose of the amendment, as stated in the Congressional Record of December 12, 1974, "is to establish within the executive branch an interagency board to coordinate and oversee the orderly development of trade with nonmarket countries."

At the time of this amendment proposal there existed a strong Congressional interest in establishing a more formalized review process for U.S. trade relations with the Communist countries. While it was generally conceded that commercial and economic ties with the non-market economy countries could be of mutual benefit to all parties involved, to better protect U.S. national interests, both in terms of security considerations and commercial benefits, a greater degree of review was called for to ensure that trade would proceed in an orderly fashion. The then-recent experience with U.S. grain sales to the U.S.S.R. in 1972 can logically be seen as a motivating force in this thought process.

A mechanism to ensure the safeguarding of American business and consumer interests and to coordinate overall U.S. Government (U.S.G.) policy on East-West trade was felt to be required. At the time the idea of such a mechanism was proposed, responsibility for determining U.S. interests was scattered among the Commerce Department's Bureau of East-West Trade, the National Security Council, the Export-Import Bank, several Congressional committees, and the East-West Trade Policy Committee. The new mechanism was also to function as an assurance that American trade relations with the U.S.S.R., the countries of Eastern Europe, and the P.R.C. would be built upon a foundation of sound commercial principles and mutual benefit. As Senator Long stated in the Senate record, inherent in the American system of business is the primary guideline of making a profitable deal. Our system of free enterprise provides no imposition of duty to act in the national interest regardless of profit. What was envisioned, then, was a body which would determine the national interest, and in light of this definition would monitor trade, technology transfer, and the issuance of U.S.G. credits, guarantees, or insurance.

The product of these Congressional views was the establishment of the East-West Foreign Trade Board. In accordance with Section 411 of the Trade Act of 1974, President Ford established the Board by Executive Order 11846 on March 27, 1975. The organization of the Board follows the organization of its predecessor—the President's Committee on East-West Trade Policy.

President Ford designated former Treasury Secretary William E. Simon as Chairman of the Board; the Assistant to the President for Economic Affairs was named Vice Chairman. In March 1977, President Carter named Treasury Secretary Michael Blumenthal to replace

Secretary Simon as chairman. Other members are the Secretaries of State, Agriculture, Defense, Commerce, and Labor, the Special Representative for Trade Negotiations, the Director of the Office of Management and Budget, the Executive Director of the Council on International Economic Policy, the President of the Export-Import Bank, and the Assistant to the President for National Security Affairs.

Among its statutory functions, the East-West Foreign Trade Board is directed in the Trade Act to:

(1) Monitor trade between persons and agencies of the U.S.G. and nonmarket economy countries to insure that such trade will be in the national interest of the U.S.

(2) Receive reports on the nature and terms of transactions from (a) any person who exports technology to a nonmarket country which is vital to the U.S. national interest, and (b) any U.S.G. agency which provides credits, guarantees or insurance to a nonmarket country in excess of \$5 million during any calendar year.

(3) Submit to Congress quarterly reports on trade between the U.S. and nonmarket countries.

The Board has functioned as a policy formulating and coordinating body since its establishment. Its Working Group, consisting of representatives of the member agencies, usually meets twice monthly to coordinate the development and implementation of East-West trade policies and to refer issues to the Board for decision.

With respect to the Board's responsibility to monitor credits, guarantees, and insurance provided under government programs, the Working Group carries out its responsibilities through oral and written reports from Eximbank, the Commodity Credit Corporation, and the Overseas Private Investment Corporation. There is also coordination between the Working Group and the National Advisory Council. Data from these agencies are summarized in the Board's quarterly reports.

Control of exports of technology to nonmarket economy countries is maintained by the Commerce Department under the authority of the Export Administration Act. To fulfill the requirement that persons who export technology to nonmarket economy countries report to the Board, the Board decided to use the export control mechanism maintained by the Commerce Department. The Board decided to use Commerce's well-established administrative mechanism, rather than establish a new one, because it did not wish to create yet another bureaucracy to levy additional requirements on businessmen. In order to do this, the Board has interpreted Section 411(b) to require that licenses for export of technical data applied for and granted, be reported to the Board by the Commerce Department. In addition, the Board and Working Group have continued the practice of the predecessor Committee by reviewing export license cases of major policy significance.

During the brief period the Board has been in existence, it has dealt with numerous questions of significant import to the development of East-West trade. The most persistent and controversial of these has been the normalization of our commercial relations with the U.S.S.R., the nonmarket economy countries of Eastern Europe, and the P.R.C.

The Board has taken the position that the United States will not realize the full potential benefits of trade with these countries until the impediments to normalized trading relationships are removed.

Among other Board activities, the Board and its Working Group have closely monitored the purchases of grain by the Soviet Union and the negotiation of the U.S.-U.S.S.R. Long-term Grain Sales Agreement. The Board, at the request of the Board of Directors of the Eximbank, has also provided policy advice concerning proposed Eximbank financing of projects in the nonmarket economies.

The Agreement of Trade Relations between the United States and Romania, which entered into force on August 3, 1975, was another of the East-West trade issues which was carefully considered by the Board. The Board actively endorsed the Agreement, and strongly urged its approval.

Finally, the Board has undertaken a number of studies on important East-West trade policy issues, including current studies on the problems of dealing with the nonmarket economy countries and the role of compensation arrangements in East-West trade.

With Secretary of the Treasury Blumenthal as Chairman of the Economic Policy Group as well as the East-West Foreign Trade Board, East-West trade policy is assured the strength of a coordinated role in U.S. Government activities. In addition, the Secretary's membership in the National Security Council fulfills the Board's mandate to monitor trade to ensure that it is in the best national interests of the United States.

While the exact future role of the Board remains undefined, its potential for developing East-West trade to its point of maximum benefit and return for the American public is a considerable one.

# EASTERN EUROPE: THE GROWING HARD CURRENCY DEBT

BY JOAN PARPART ZOETER\*

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## I. INTRODUCTION

This article discusses East European<sup>1</sup> hard currency indebtedness and the factors that led to the buildup of this debt. In view of the fact that insufficient data are available on current account items other than merchandise trade, the discussion will not deal with these balance of payments elements.

\*The author wishes to express her appreciation to Edwin Snell and Kathryn Melson for their assistance in compiling the estimates presented in this article.

<sup>1</sup> Bulgaria, Czechoslovakia, East Germany, Hungary, Poland, and Romania.

## II. BACKGROUND

Heavy borrowing has pushed the hard currency debt of the East European countries up from \$5 billion at the end of 1970 to \$26 billion by yearend 1976. Although these countries had programmed large increases in capital goods imports to be financed largely with Western credits, indebtedness was not expected to reach such proportions. Soaring world commodity prices, the economic recession in the West, and extraordinary grain imports added greatly to the borrowing already planned by the East Europeans to help fuel economic growth.

With heavy debt burdens and continued uncertainties in their Western markets, the East Europeans are faced with difficult choices. In order to keep new borrowing down, they will have to carefully monitor imports from the West while attempting to maximize exports. Since economic growth depends to an important degree on imports of Western capital goods and industrial materials, cutbacks in import growth will impact negatively on the economic health of the East European countries. Maintaining a modicum of growth in consumer welfare will be necessary in order to minimize consumer discontent.

## III. THE DEBT BUILDS UP

### A. 1971-75

The East Europeans sharply boosted imports in 1971-75 to help modernize their economies with Western technology and equipment. They also required increasingly large imports of industrial materials from the West to compensate for a slowdown in the growth of imports from the U.S.S.R.

East European exports to the developed West failed to keep pace with imports throughout the period, growing 20 percent a year compared with 29 percent a year for imports (see Table 1).<sup>2</sup> The East European trade deficit doubled in 1973—mainly due to the nearly quadrupling of the Polish deficit—and again in 1974 as import prices for oil, chemicals, steel, cotton, grain, and soybean meal soared. In 1975 the Western recession caused East European exports to slump, boosting the deficit to a record \$6.8 billion in spite of efforts to cut back on import growth. Poland alone racked up a \$3 billion deficit. Romania, by cutting imports sharply, was the only country able to keep its deficit from rising in 1975.

<sup>2</sup> Trade with the developed West only is used throughout this paper. The data are from East European foreign trade statistics. See Appendix A for a discussion of the difficulties in calculating East European hard currency trade with the less developed countries.

TABLE 1.—EASTERN EUROPE: TRADE WITH THE DEVELOPED WEST

[In millions of U.S. dollars]

	1970	1971	1972	1973	1974	1975 <sup>2</sup>	1976 <sup>2</sup>
<b>Total Eastern Europe:</b>							
Exports.....	4,134	4,556	5,599	7,935	10,676	10,324	11,570
Imports.....	4,834	5,399	7,000	10,745	16,030	17,095	18,030
Balance.....	-700	-843	-1,401	-2,810	-5,354	-6,771	-6,460
<b>Bulgaria:</b>							
Exports.....	260	285	310	403	403	363	420
Imports.....	324	338	349	480	928	1,204	940
Balance.....	-64	-53	-39	-77	-525	-841	-520
<b>Czechoslovakia:</b>							
Exports.....	746	820	921	1,266	1,639	1,600	1,730
Imports.....	880	966	1,056	1,513	2,031	2,178	2,370
Balance.....	-134	-146	-135	-247	-392	-578	-640
<b>East Germany:</b>							
Exports.....	1,058	1,134	1,406	1,915	2,646	2,586	2,850
Imports.....	1,350	1,415	1,929	2,735	3,540	3,630	4,050
Balance.....	-292	-281	-523	-820	-894	-1,044	-1,200
<b>Hungary:</b>							
Exports.....	558	549	739	1,085	1,221	1,096	1,290
Imports.....	623	790	851	1,135	1,862	1,843	1,860
Balance.....	-65	-241	-112	-50	-641	-747	-570
<b>Poland:</b>							
Exports.....	962	1,099	1,397	2,063	2,865	3,026	3,330
Imports.....	901	1,075	1,772	3,431	5,233	6,076	6,660
Balance.....	61	24	-375	-1,368	-2,368	-3,050	-3,330
<b>Romania:</b>							
Exports.....	550	669	826	1,203	1,902	1,653	1,950
Imports.....	756	815	1,043	1,451	2,436	2,164	2,150
Balance.....	-206	-146	-217	-248	-534	-511	-200

<sup>1</sup> Australia, Austria, Belgium, Luxembourg, Canada, Denmark, Finland, France, Iceland, Ireland, Italy, Japan, Liechtenstein, the Netherlands, New Zealand, Norway, Sweden, Switzerland, the United Kingdom, the United States, and West Germany.

<sup>2</sup> The data for East Germany are estimated.

<sup>3</sup> The data for Bulgaria, East Germany, and Romania are estimated. The data for the other countries are partially estimated.

Source: Official East European foreign trade statistics. All exports and imports are f.o.b. except for Hungary which reports imports on a c.i.f. basis.

As a result of these deficits Eastern Europe had by the end of 1975 accumulated a \$19 billion debt. Poland's debt totaled \$6.9 billion; East Germany and Romania had debts of \$3.8 billion and \$3 billion, respectively (see Table 2). Poland—eager for advanced Western technology and equipment—permitted the fastest growth of its debt. Other countries such as Czechoslovakia, Hungary, and Romania exercised considerably more prudence in borrowing.

TABLE 2.—EASTERN EUROPE: ESTIMATED NET HARD CURRENCY DEBT<sup>1</sup> AT YEAREND

[In billions of U.S. dollars]

	1970	1973	1974	1975	1976 <sup>2</sup>
<b>Total debt.....</b>	<b>4.6</b>	<b>8.5</b>	<b>13.1</b>	<b>19.1</b>	<b>25.6</b>
Bulgaria.....	.7	.8	1.2	1.8	2.3
Czechoslovakia.....	.3	.8	1.1	1.5	2.1
East Germany.....	1.0	2.1	2.8	3.8	4.9
Hungary.....	.6	.9	1.5	2.1	2.8
Poland.....	.8	1.9	3.9	6.9	10.2
Romania.....	1.2	2.0	2.6	3.0	3.3

<sup>1</sup> The methodology for estimating East European hard currency debt is in app. B.

<sup>2</sup> Preliminary estimates.

The rapid rise in East European imports of Western machinery and equipment was made possible largely by Western extensions of large amounts of government-backed credits. By yearend 1975, the amount outstanding on government-backed credits represented roughly one-fourth of total East European indebtedness.

At the same time, private borrowing from commercial banks—as reflected in Bank for International Settlements (BIS) data—played an increasingly important role as rapidly growing deficits and debt servicing obligations necessitated the greater use of financial credits. A large part of the commercial bank borrowing was on a direct bank-to-bank basis whereby the East Europeans obtained time deposits and other credits.<sup>3</sup> The advantage of such credits is that they can—unlike government-backed and other supplier credits which are tied to specific purchases—be used to cover immediate needs. On the other hand, these credits generally carry higher interest rates and are of shorter duration than government-backed credits.

Total net liabilities to commercial banks are estimated to have accounted for somewhat more than half of total East European indebtedness by yearend 1975, up from roughly two-fifths at yearend 1973.<sup>4</sup> In 1975, reported liabilities on the Euromarket rose by \$4 billion while East European assets rose by \$700 million; reported net liabilities stood at \$8.7 billion at yearend 1975 (see Appendix C).<sup>5</sup> About one-third of the increase in commercial bank borrowing in 1975 consisted of publicized medium- and long-term syndicated loans with repayment periods running up to 7 years (see Appendix D for a partial listing of such loans).

Other sources of financing included direct Middle East placements—largely to Romania—totaling at least \$700 million by yearend 1975: The East Germans benefited from an interest-free West German swing credit, which had accumulated to about \$300 million. The East Europeans also borrowed from CEMA banks and on other non-government-backed supplier credits which do not appear in the BIS statistics. However, data on these sources of financing, as well as on direct Middle East placements, are incomplete. Thus, the estimates of East European debt are probably conservative.

### B. 1976

Burgeoning trade deficits and mounting debts forced the East European countries to take steps in 1976 to reduce these deficits. The results were mixed. For the area as a whole, the trade deficit is estimated to have dropped by \$300 million to \$6.5 billion as exports picked up and import growth slowed down. Bulgaria and Romania—

<sup>3</sup> Some of the East European borrowing from commercial banks was indirect, resulting from the discounting—mostly on a nonrecourse basis—of private supplier credits by Western firms with their bank. Such supplier credits are believed to run up to five years in length. Non-recourse, or a *forfait*, financing is a form of supplier's financing whereby the bank accepting bills or notes from an exporter for discount absorbs the risks of collecting payment from the importer.

<sup>4</sup> The position of the East European countries with Western commercial banks is from data reported by the Bank for International Settlements (BIS). The calculation for total net liabilities to commercial banks includes an estimate for the East European position with banks in Canada, Japan, Switzerland, and the United States, which do not break out their positions with individual East European countries in their reporting to the BIS, and with banks in Austria, which do not report to the BIS.

<sup>5</sup> According to U.S. Treasury and Federal Reserve statistics, U.S.-based banks and their major foreign branches held \$1,188 million in net claims against Eastern Europe at the end of 1975. About three-fourths of these claims were held by the foreign branches.

already carrying heavy debt burdens—and Hungary—usually a cautious borrower—took stringent measures to reduce their trade deficits. All three were able to cut their deficits sharply, with Romania being the most successful. On the other hand, Czechoslovakia, East Germany, and Poland were unable to reduce their deficits, largely because of large imports of grain and fodder necessitated by poor harvests and the suspension of Soviet grain deliveries. By yearend, East European debt had climbed to \$26 billion.

Available information suggests that most East European countries had little trouble in financing their 1976 deficits and meeting mounting repayment obligations. Substantial government-backed credits continued to be available and reported net Euromarket liabilities of Eastern Europe rose by \$3.8 billion as compared with \$3.3 billion in 1975 and totaled \$12.5 billion by the end of the year. About one-third of the rise in Euromarket liabilities consisted of medium- and long-term syndicated loans. Money markets were very liquid as an expected strong competition for funds failed to materialize because of the sluggish Western economic recovery. In general, the East Europeans were able to borrow at the same spreads above the London Interbank Offered Rate (LIBOR) as in 1975, although management and other fees may have been higher.

In spite of the availability of funds, Western bankers began to indicate concern over Eastern Europe's rapidly growing debt. Many lenders became unwilling to extend additional large untied loans—especially to Poland. Some of the project loans have apparently been tied only very loosely to East European purchases in the West, e.g., the \$120 million syndicated loan to Bulgaria for the development of the chemical industry. Others have been extended for specific projects, e.g., the \$100 million syndicated loan to Poland which is to help pay for equipment from the United Kingdom, Japan, and the United States for a polyvinyl chloride plant. But if, as is likely, such loans can be drawn down before the actual delivery of the equipment, they can then be used for immediate balance-of-payments purposes.

Moreover, some banks may be near legal or self-imposed ceilings for individual borrowers on East European financing.<sup>6</sup> The East Europeans, however, may be able to sidestep this problem by having some institution other than the foreign trade banks apply for the financing. In 1976, the Polish shipping enterprise Polska Zegluga Morska took up a \$20 million 5-year loan managed by First Chicago Ltd.<sup>7</sup>

Only Poland is believed to have encountered serious difficulties in meeting its 1976 needs for balance-of-payments financing. Warsaw reportedly has admitted that it is having problems in obtaining large-scale Euromarket loans because of its heavy past borrowing.<sup>8</sup> According to Roman Malesa, President of Bank Handlowy, some Western bankers have been excessive in their demands and in such cases Warsaw has refused to conclude the transaction.<sup>9</sup> The Poles, for example, recently balked at paying a front-end fee of 1.25 percent on top of a 1.5 percent spread over LIBOR<sup>10</sup>. Malesa also said that

<sup>6</sup> *The New York Times*, June 6, 1976.

<sup>7</sup> *Moscow Narodny Bank Press Bulletin*, July 28, 1976, p. 13.

<sup>8</sup> "Enter the Eurorouble," *Euromoney*, January 1977, p. 11.

<sup>9</sup> "Roman Malesa, Bank Handlowy's President and Negotiator," *Euromoney*, January 1977, p. 33.

<sup>10</sup> "The New Sophistication in East-West Financing," *Business Week*, March 7, 1977, p. 40.

Poland would not accept a spread of more than 1.5 percent. It is probable, however, that Poland had to pay an effective rate of more than 1.5 percent counting front-end fees in order to obtain the financing needed in 1976.

#### IV. POLAND

Poland, with a rapidly rising debt and debt service obligations, faces the most difficulty in bringing its external accounts into equilibrium. Gierek—in a reversal of his predecessor Gomulka's more cautious approach—has used Western credits to import large amounts of capital equipment to push rapid economic development and modernize the Polish economy and to raise the standard of living of urban workers. At the same time, Poland has had to sharply increase its imports of Western industrial materials, especially metallurgical products, and in 1975 and 1976 had to import extraordinary amounts of Western grain and fodder.

As a result of the rapid rise in imports, Poland's trade surpluses of the 1960s and early 1970s turned to deficits by 1972. The deficit nearly quadrupled in 1973, in large part because of the deterioration in terms of trade which was mainly due to sharp increases in the prices of imported agricultural products. The trade deficit nearly doubled in 1974. Although the value of exports increased by 39 percent, the volume dropped slightly as a result of the EC ban on beef and cattle imports and the beginning of Western recession late in the year. At the same time, imports rose 53 percent, in large part due to sharp increases in the price of oil and other raw materials. Although as shown in Table 3, the terms of trade improved substantially, the effect of the more rapid increase in export prices was more than offset by the fact that the volume of imports was nearly twice that of exports.

TABLE 3.—POLAND: TERMS OF TRADE WITH THE DEVELOPED WEST

	[Previous year=100]				
	1971	1972	1973	1974	1975
Export prices.....	106.4	101.2	116.7	145.3	108.6
Import prices.....	94.2	97.9	128.0	132.8	103.3
Terms of trade.....	113.0	103.4	91.2	109.4	105.1

Source: "Terms of Trade in Polish Foreign Trade" by Anna Stepniewska and Hanna Molewicz, "Handel Zagraniczny No. 7," Warsaw, July 1976. (Translated by Joint Publications Research Service.)

Although Poland's import growth slowed to 16 percent in 1975, mostly as a result of a sharp drop in the rate of increase in import prices, the deficit still climbed to \$3 billion. Imports of machinery and equipment continued to soar and those of grain and fodder hit a record 7 million tons due to shortfalls in domestic production and Moscow's suspension of deliveries. Imports of rolled steel, on the other hand, fell. Exports rose only 6 percent (down 3 percent in real terms) as sales of foodstuffs, metallurgical products, and chemicals dropped sharply.

Poland's net indebtedness rose to \$6.9 billion by yearend 1975. Not only did the debt rise substantially, but a much larger share of exports was required to service the debt. Debt service jumped from 27 percent of merchandise exports in 1974 to 43 percent in 1975 (see Appendixes E and F).

: Although still relying heavily on government and government-guaranteed credits<sup>11</sup>—which accounted for nearly two-fifths of the total debt at end 1975—Poland was forced to boost its borrowing on the money market to cover the deficits and meet repayment obligations. In 1975, net private borrowing from commercial banks accounted for more than one-half of the \$3 billion rise in the debt. Of this, some \$500 million was in publicized syndicated loans of five years or more. By yearend, estimated net liabilities to commercial banks hit \$4 billion. In addition, Poland owed about \$400 million on West German supplier credits. Warsaw also reportedly received substantial Middle East deposits. Poland presumably has borrowed more than has been accounted for above. As a result of its heavy use of financial credits, many of which are short-term, Poland's debt structure has worsened. Known long-term debt dropped from about three-fifths of the total in 1970 to roughly three-tenths in 1975 (see Appendix G).

In spite of some recovery in exports and efforts to curb import growth, Poland incurred in 1976 an even larger deficit than in 1975 because it was committed to large imports of Western grain and of machinery and equipment. To reduce consumer grumbling, Warsaw felt the need to reduce exports of coal and meat to make more available at home, while maintaining grain and fodder imports in order to boost livestock production. Import growth was held down to 6.5 percent in the first 11 months of the year but shot up in December apparently due in large part to sharp increases in deliveries of machinery and equipment; the rise in imports for the whole year was 10 percent. Exports also rose 10 percent. In real terms, imports from and exports to the developed West may have grown faster. According to a Polish report, in trade with all non-Communist countries, import prices declined by 3 percent and export prices by 5 percent.<sup>12</sup>

By the end of the year Polish debt probably reached \$10.2 billion. Poland required about \$4.5 billion in financing in 1976 to cover the trade deficit and repayment obligations on earlier debts. Up to \$2 billion in government and government-backed credits, and the \$250 million extended by Iran in 1975<sup>13</sup> were available for use leaving roughly \$2 billion to meet the balance of its financial needs.

Because of the rapid build up of its debt, Poland found it difficult to arrange for Western financial credits. Many lenders had become willing to participate only in credits tied to Polish imports. But, as indicated earlier, Poland may be able to draw down the funds prior to actual delivery of the equipment. In first half 1976, Poland's borrowings on the Euromarket were down substantially, in part because lenders were holding back in anticipation of a greater demand for funds from developed Western countries. When this demand failed to materialize, Poland was able to borrow enough in the second half to bring its net borrowings to \$1.4 billion for the year, although it had to pay a higher interest than most other East European countries—1.5 percent over the London Interbank Offered Rate (LIBOR).

<sup>11</sup> Poland's outstanding indebtedness on U.S. government and government-backed credits at yearend 1975 totaled \$375 million of which \$92 million was on Eximbank credits, \$48 million on CCC credits, and \$236 million on P.L. 480 credits extended in 1957-64.

<sup>12</sup> "Polski handel zagraniczny w 1976 Roku." *Handel Zagraniczny*, Number 3, 1977, p. 18.

<sup>13</sup> *East European Report*, Business International S.A., January 10, 1975, p. 18.

It is uncertain how Poland raised the remaining \$1 billion, but presumably most of it consisted of private borrowing from commercial banks not included in the BIS reporting on Poland.

## V. ROMANIA

Romania has also run up a large hard currency debt because of substantial imports of Western technology and equipment to modernize its economy. Once the biggest borrower in Eastern Europe, Romania managed to keep its debts manageable in the early 1970s by restricting new borrowing and spreading out its debt; long-term debt rose from 20 percent of the total in 1970 to 40 percent in 1975, a higher share than for any other East European country except Hungary.

The strategy began to go awry in 1974, when soaring import prices helped push the trade deficit up to \$500 million. Although the Ceausescu regime cut imports sharply in 1975, Romania again incurred a \$500 million deficit. Imports of Western machinery leveled off after several years of very rapid growth. Exports dropped about 13 percent due to lower Western demand for Romanian products and domestic short-falls in agricultural production. The hard currency debt rose from \$2 billion at yearend 1973 to \$3 billion at yearend 1975. The share of exports required to service the debt rose to 42 percent.

Credits backed by Western governments represented the largest single source of debt financing; in 1975 they accounted for roughly one-third of Romania's total debt. Bucharest's borrowing from Western commercial banks has remained relatively small with estimated net liabilities totaling about \$630 million by yearend 1975. Romania also had outstanding some \$420 million from Iran,<sup>14</sup> \$60 million from Kuwait,<sup>15</sup> about \$145 million on two IMF credits,<sup>16</sup> \$150 million in West German supplier credits, and \$40 million in CCC credits. Moreover, some \$100 million in West German credits extended in 1970 and 1973 to help cover Romanian repayment obligations was still outstanding at the end of 1975. In addition, Romania owed about \$500 million to unidentified sources.

Romania continued to cut imports in the first half of 1976 (as compared with first half 1975) and then permitted a surge in the second half so that total imports for the year were at about the 1975 level. At the same time, exports rebounded and the deficit dropped by 60% to an estimated \$200 million. The Romanians required roughly \$1 billion in new financing to cover the current account deficit and debt repayments in 1976. It is estimated that Bucharest had at most only \$200 million in government-guaranteed credits to draw on. In addition, Romania may have had available more than \$100 million in World Bank credits<sup>17</sup> and drew down \$175 million from IMF standby arrangements.<sup>18</sup> The balance of the required financing apparently was obtained from private banking sources although BIS data indicate that Romania's net borrowing on the Euromarket declined somewhat. Romania's net indebtedness rose to an estimated \$3.3 billion by yearend 1976.

<sup>14</sup> *Moscow Narodny Bank Press Bulletin*, December 7, 1975, p. 2.

<sup>15</sup> *East-West Markets*, October 20, 1975, p. 7.

<sup>16</sup> *International Financial Statistics*, International Monetary Fund, February 1976, pp. 8-9.

<sup>17</sup> Romania has been granted about \$520 million in IBRD credits since 1973. It is believed that very little of this was drawn down prior to 1976.

<sup>18</sup> *International Financial Statistics*, International Monetary Fund, February 1977, page 10.

## VI. EAST GERMANY

East Germany's debt also has risen sharply as its appetite for Western goods has sharpened and the growth of Soviet deliveries of industrial materials and grain has slowed. By 1973, its trade deficit with the West had already hit \$800 million. Skyrocketing import prices in 1974 and stagnating exports in 1975 boosted the deficit to \$1.0 billion by 1975 in spite of East German efforts to cut back on import growth. Total imports increased only 3 percent in 1975 although imports of grain, machinery, and equipment rose sharply. Exports fell slightly in 1975 mainly due to a sharp decline in exports of iron and steel and of fuels.

The heavy borrowing required to cover the deficits pushed East Germany's hard currency debt up from \$2.1 billion at yearend 1973 to \$3.8 billion at yearend 1975. Liabilities on private borrowing from commercial banks accounted for nearly two-thirds of the total debt at yearend 1975 whereas only 10 percent was in government-guaranteed credits. About one-fourth of the East German debt consisted of net liabilities to West Germany, as shown below:

[In Millions of U.S. dollars at yearend]

	1973	1974	1975	1976
Total net indebtedness.....	2.1	2.8	3.8	4.9
To West Germany <sup>1</sup> .....	<sup>2</sup> 2.6	<sup>2</sup> 2.8	<sup>3</sup> 2.9	<sup>3</sup> 1.1

<sup>1</sup> Converted at the West German exchange rate prevailing at the end of each year.

<sup>2</sup> "Bericht über den innerdeutschen Handel und Aussenhandel der DDR: 10, Bericht", Der Bundesminister für Wirtschaft, Bonn, November 1976, p. 2.

<sup>3</sup> "BMWI Tagesnachrichten", Der Bundesminister für Wirtschaft, Bonn, Mar. 3, 1977, p. 1.

Net East German liabilities to West Germany are referred to as the "cumulative active balance," which represents the balance of transactions processed through the clearing account less East German payments in deutschmarks to a special account. These liabilities consist of the amount outstanding on the interest-free swing credit, on non-guaranteed commercial credits, and on insurance and financing by the West German Gesellschaft zur Finanzierung von Industrieanlagen mbH (GeFi) and Treuarbeit A.G., which provide insurance and financing specifically for exports to East Germany. The amount outstanding on the swing credit at yearend 1975 was about \$300 million.

Available data suggest that the East Germans failed to reduce their trade deficit in 1976. Although exports rose by an estimated 10 percent, the need for large amounts of Western grain helped push total imports up. The East Germans borrowed heavily in the Euro-currency market, increasing their net liabilities by \$940 million in 1976 as compared with \$775 million in 1975. At the same time, net liabilities to West Germany rose by about \$200 million. The debt is estimated to have risen to \$4.9 billion by yearend, up from \$3.8 billion a year earlier, as noted in the tabulation above.

## VII. BULGARIA

Bulgaria managed to keep its hard currency debt under control until 1974-75 when Western inflation, a spurt in imports of machinery and equipment, and stagnating exports caused Bulgaria's trade

deficits to rise almost tenfold to \$800 million. Exports, which had done quite well through 1973, failed to rise in 1974 and declined in 1975. At the same time, total imports more than doubled and imports of machinery and equipment tripled.

The heavy borrowing required to cover the large deficits boosted Bulgaria's net hard currency debt from \$800 million at yearend 1973 to \$1.8 billion at yearend 1975. The debt service ratio skyrocketed from 35 percent in 1973 to 66 percent in 1975 as repayments and interest burgeoned while exports stagnated. Bulgaria has been more dependent on private financing from commercial banks than any other East European country except Hungary. Estimated net liabilities to commercial banks accounted for about four-fifths of Bulgaria's debt by yearend 1975, with government-guaranteed credits accounting for most of the remaining debt.

Bulgaria pushed hard to reduce its 1976 trade deficit; imports were cut by an estimated 22 percent while exports rose roughly 15 percent, thus, Bulgaria could have reduced its trade deficit by about \$300 million to some \$500 million for the year as a whole.

Bulgaria apparently had no difficulty in raising about \$700 million in 1976 to cover its trade deficit and meet repayment obligations. Some government-guaranteed credits and one-half of a \$160-million Iranian loan extended in 1975 were available. Reported net borrowing on the Euromarket rose \$300 million in 1976, down substantially from the \$475 million borrowed in 1975. Bulgaria's debt at the end of 1976 probably totaled \$2.3 billion.

## VIII. HUNGARY

Although conservative in its financial dealings with the West, Hungary had to borrow heavily in 1974-75 to cover large deficits stemming from deteriorating terms of trade,<sup>19</sup> the EC ban on beef and cattle imports,<sup>20</sup> and the weakening of Western demand. Even though Hungary took strong measures to curb imports in the second half of 1975, the trade deficit still hit a record \$700 million for the year. Imports of chemicals and foodstuffs dropped sharply in 1975, but imports of machinery and equipment increased substantially. The sharpest drop in exports in 1975 occurred in metallurgical products, chemicals, and clothing and textiles.

TABLE 4.—HUNGARY: TERMS OF TRADE WITH THE DEVELOPED WEST

[Previous year=100]

	1972	1973	1974	1975 <sup>1</sup>
Export prices.....	105.3	114.8	118.0	94.6
Import prices.....	102.8	113.7	133.0	100.9
Terms of trade.....	102.4	101.0	88.7	93.8

<sup>1</sup> Estimated on the basis of Hungarian data.

Sources: "Külkereskedelmi statisztikai evkönyv for 1972, 1974, and 1975." Hungarian Statistical Office, Budapest.

<sup>19</sup> Table 4 shows trends in Hungarian export and import prices in trade with the developed West.

<sup>20</sup> Hungarian exports to the developed West in 1974 and 1975 would have been 7 percent and 10 percent respectively, higher if exports of cattle had remained at the 1973 level.

Hungary's net hard currency debt soared from \$900 million in 1973 to \$2.1 billion in 1975. Debt service climbed from 20 percent to 35 percent of merchandise exports.

More than four-fifths of Hungary's debt outstanding at yearend 1975 consisted of commercial bank loans. Most of the recent increase in the debt was in long-term borrowing—Eurocurrency bonds and loans—which rose from 19 percent of the debt in 1970 to 42 percent in 1975. The relatively low share of government-backed credits (less than 10 percent) reflects not only Hungary's high dependence on the West for industrial materials—for which only short-term supplier credits are generally available—but also the government's policy of importing Western plant and equipment on a selective basis (usually on the expectation of a rapid payoff in exports).

Hungary again took measures to cut its imports in the first half of 1976, but then permitted a rise as exports picked up strongly. For the year as a whole, imports rose 1 percent while exports soared by 18 percent, enabling Hungary to reduce its trade deficit by 24 percent to \$570 million. Imports of machinery and equipment continued to rise, whereas those of industrial materials were held near the 1975 level. Much of the rapid rise in exports came from chemicals and metallurgical products. The Hungarians claim that in their total non-communist trade the volume of imports grew faster than the value as prices declined 4 percent. Export prices rose 4 percent, and the terms of trade improved by 8 percent.

In 1976, known net borrowing on the Euromarket came to \$700 million, up considerably from the \$417 million borrowed in 1975. The debt rose to about \$2.8 billion by yearend. Debt service may have increased to about 40 percent as repayments on the heavy 1975 borrowing began to fall due.

## IX. CZECHOSLOVAKIA

Czechoslovakia has traditionally followed a conservative borrowing policy. Although its debt has risen rapidly in recent years, it is the only East European country whose debt does not substantially exceed annual exports. A rapid rise in imports of Western machinery and equipment helped push indebtedness up from \$300 million to \$800 million between the end of 1970 and the end of 1973.

In 1974, Czechoslovakia—which relies heavily on exports of manufactured goods in exchange for Western raw materials and semi-manufactures—suffered a deterioration in its terms of trade as import prices soared. In 1975 the Western recession took its toll on Czechoslovak exports as well; exports declined 2 percent despite a rise in exports of machinery and equipment. Imports were up slightly as cutbacks in agricultural products and textiles were offset by the continued surge in imports of equipment and steel. Prague ended the year with a \$1.5 billion debt. However, the resulting debt service payments represented only 22 percent of merchandise exports.

At the end of 1975, government-guaranteed credits accounted for perhaps 30 percent of the debt and West German supplier credits for more than one-half. Very little of the Czechoslovak debt consists of obligations to commercial banks; estimated liabilities at yearend 1975 of \$560 million were offset to a considerable extent by assets of \$310 million.

Because of the need for an unusually large quantity of Western grain due to last year's drought, Czechoslovakia was unable to reduce its trade deficit in 1976. Imports rose 9%—slightly more than the 8% increase in exports—and the deficit rose somewhat.

Prague substantially stepped up its Euromarket borrowing. Its known net liabilities rose by \$472 million in 1976. In November it received its second publicized syndicated loan, a five year, \$200 million loan from a consortium of four West German banks. Estimated debt rose to \$2.1 billion by yearend 1976.

## X. NEAR-TERM OUTLOOK

The East Europeans may have some difficult years ahead. Growing debt burdens will require them to cut back on the growth of imports in order to reduce trade deficits and slow the growth of their debts. The East Europeans plan to keep import growth well below that in 1971-75. Poland, for example, plans to hold imports from the West at the 1975 level through 1980. In most cases, however, the import targets are unrealistically low in terms of economic growth goals. These countries are heavily dependent on imports of Western equipment and materials to generate economic growth. Even with the cutback in import growth, East European financing requirements for at least the next year or two would remain near the 1976 level as mounting repayment obligations offset reduced trade deficits.

The situation is further complicated by the fact that the East Europeans will now be relying less on the U.S.S.R. for oil and industrial materials. Moreover, they may have to divert some potential hard currency exports to the U.S.S.R. to cover deficits created by worsening terms of trade resulting from higher CEMA—especially Soviet—prices.

In 1977, Poland, Czechoslovakia, and East Germany will be helped in their quest to restrict the growth of imports by Soviet grain deliveries denied them for part of 1975 and most of 1976. They will then be able to reduce imports of Western grain if they have normal harvests. On the other hand, export growth may be limited if economic recovery in the West continues to lag. In addition, the terms of trade of some of the countries will worsen as prices of imported oil and chemicals rise. Thus, the trade deficit could again exceed \$5 billion. Poland, which may cut its imports in absolute terms, is still expected to incur a deficit in excess of \$2.5 billion.

By the end of the year, net hard currency indebtedness could rise to more than \$30 billion. Although sizable government- and government-guaranteed credits<sup>21</sup> are available, the East Europeans may have to go into the Euromarket even more heavily than in 1976 to meet their growing debt service obligations. But because of growing banker concern some of the countries—notably Bulgaria and Poland—may have difficulty raising all they need even at relatively high interest rates.

### *Beyond 1977*

A critical problem facing the East European leaders is how to keep up the imports of the industrial materials, agricultural products and

<sup>21</sup> Selected Western government and government-backed credit extensions are shown in Appendix H. It is believed that a large part of these credits were not yet drawn down by the end of 1976.

consumer manufactures deemed necessary to meet economic growth plans and consumer requirements. Under the most favorable conditions—a strong recovery in exports and good harvests—most East European countries should be able to import the necessary industrial materials without economic or financial assistance. But they can do this only if they are willing to curb their imports of machinery and equipment. All the East European countries have, in fact, indicated their intention of allowing little if any growth in (or even cutting) imports of Western capital equipment. Such imports can be curbed for a time without much effect on economic growth, especially in Poland where there is a large backlog of equipment not yet in operation.

If recovery in the West is sluggish, the East Europeans face the prospect of having to cut back their economic growth. Poor harvests would make this all the more necessary. Under these circumstances, it is unlikely that the East Europeans could import the necessary industrial materials without outside help. The East Europeans' tendency to overstockpile will ensure an adequate supply of industrial materials for perhaps another year, but thereafter failure to raise imports would result in serious bottlenecks in production.

Moscow apparently is concerned enough about Eastern Europe's economic difficulties—especially those which threaten political stability—to provide some assistance, even at the cost of some of its own hard currency exports. Gierek's recent success in obtaining a large Soviet aid package—including additional deliveries of oil—could set the stage for assistance to other East European countries. Such aid probably would consist mainly of above-plan deliveries of raw materials and permission to continue running deficits in trade with the U.S.S.R. The Soviets also might extend some hard currency credits, but these are not expected to be large. Whatever assistance they provide, however, probably will not be sufficient to free Eastern Europe from the need to closely control imports.

## APPENDIX A

### EASTERN EUROPE: HARD CURRENCY TRADE WITH THE LDCs

Information on how the East European countries earn hard currency from the LDCs is sparse. The largest part is generated from trade and is reflected in the trade balances with multilateral trading partners. Even these probably overstate the amount of Eastern Europe's hard currency trade with the LDCs.

Part of the trade with LDC multilateral partners is on a barter or credit basis. In general, the method of payments is determined by the nature of the commodities involved. For example, a sizeable part of East European exports of machinery and equipment to the LDCs probably is not paid for in hard currency. Thus, a large portion of any surpluses on trade with the multilateral LDC partners is not available as an offset to deficits on trade with the developed West.

Most of the data in the attached table were derived by subtracting from total East European trade with the LDCs that portion which is known to be covered by bilateral clearing agreements. The data for Bulgaria and East Germany, however, were calculated on the basis of reporting on those LDCs with which Bulgaria and East Germany are believed to have multilateral payments agreements. The Bulgarians and East Germans omit from their trade data many of the LDC trading partners—both those with which they have bilateral payments agreements and those with which they presumably settle on a multilateral basis. In the case of Bulgaria, the omitted countries accounted for 25% of exports to and 18% of imports from the LDCs in 1974 and in the case of East Germany for 9% and 14%, respectively.

TABLE A1.—EASTERN EUROPE: TRADE WITH LDC NONBILATERAL TRADING PARTNERS

[In millions of U.S. dollars]

	1973			1974			1975		
	Exports	Imports	Balance	Exports	Imports	Balance	Exports	Imports	Balance
Bulgaria <sup>1</sup> .....	63	26	+37	182	137	+45	NA	NA	NA
Czechoslovakia....	248	190	+58	334	254	+80	496	314	+182
East Germany <sup>1</sup> ....	74	71	+3	72	253	-181	NA	NA	NA
Hungary.....	109	75	+34	202	175	+27	241	256	-15
Poland.....	215	99	+116	421	196	+225	657	353	+304
Romania.....	329	209	+120	416	271	+145	675	407	+268
Total.....	1,038	670	+368	1,627	1,286	+341	NA	NA	NA

<sup>1</sup> Because Bulgaria and East Germany do not report trade with many of the LDC's, the data on their trade with LDC nonbilateral trading partners is incomplete.

Source: Official East European foreign trade statistics.

## APPENDIX B

### EAST EUROPEAN DEBT: SOURCES AND METHODOLOGY

#### *Sources of Information*

Estimates of East European outstanding indebtedness and debt service are derived from a variety of sources. Debt estimates—including short-term (up to one year), medium-term (one to four years for the purposes of this paper) and long-term (more than four years)—are based on incomplete data and thus rely to some degree on estimative techniques and qualitative judgments. The estimates of total outstanding indebtedness are believed to be reasonably accurate; the estimates of debt service are less certain because of the scarcity of data on the debt structure.

The major sources of financial data are:

1. Summary financial information provided quarterly by Western commercial banks to the Bank for International Settlements (BIS). BIS reports show member bank assets and claims vis-a-vis the individual East European countries. The BIS data presumably include assets resulting from (1) bank-to-bank credits, (2) bank participation in consortium loans, (3) bank re-discounting of East European commercial paper on a nonrecourse basis, and (4) time deposits placed with individual East European countries. The reporting suffers from several shortcomings:

- (a) There is no breakout of commercial bank asset and claim positions for individual reporting countries vis-a-vis individual East European countries.

- (b) There is no breakout by term (short-term, medium-term, long-term) and no mention of average interest rates.

- (c) Some major lenders to Eastern Europe including Austria and various Middle Eastern nations do not report to the BIS. The positions of banks in Switzerland, Canada, Japan, and the United States are not broken out by East European country, leaving a residual category in the BIS reporting, which also includes the positions of Japanese and Swiss banks with the USSR. Moreover, the positions of banks in the Netherlands were included in the residual until end-June 1975. Also branches of U.S. banks in the Bahamas, Cayman Islands, Panama, Hong Kong, and Singapore did not report to the BIS until end-December 1975.

- (d) No summary data by individual East European country are available prior to 1974.

2. Information pertaining to East European orders for Western equipment, which often contains financial data, is culled from a variety of sources, including newspapers and East-West trade publications. Although it is apparent that a major share of orders have been identified, financial and delivery information is sometimes unavailable.

3. Firm commitments on Western government-guaranteed credits at year-end 1975 are presented in Chase World Information's *East West Markets* of

September 20 and October 4, 1976. This source also shows estimated amounts not yet drawn by the end of 1975. The data presented by Chase are not available for any earlier years.

Beyond these summary statistics, information from a variety of sources is used: East European trade data, Western trade statistics, East European specialized journals and newspapers, and Western financial and trade publications.

### *Methodology*

The methodology employed in estimating East European indebtedness and debt service, with those exceptions noted below, relies heavily on BIS statistics and financial information associated with orders placed in the West. Independent checks on debt estimates are made on the basis of changes in current account balances when possible.

(a) A variety of collateral data has led us to assume that the East European countries finance all machinery and equipment imports from the West on a supplier credit basis. Because East European data on imports of Western machinery and equipment are in most cases not detailed enough, Western trade statistics are used to determine the total amount of equipment imports financed in this manner. Known sales contracts are matched with export statistics. Financial information is used when available to determine the downpayment and the repayment period. When financial information is lacking for a specific contract, the terms are assumed to be the same as those generally applied by the exporting country's guaranteeing organization. In some cases, such as the purchase of a merchant ship, a contract is presumed by analogy with the usual practice. The financing of that portion of equipment imports for which no contract information is available is judged to be split between short- and medium-term credits. Except in the case of Hungary, the bulk of the estimated amount outstanding on credits to finance machinery and equipment is backed by Western governments.

(b) A second methodology is employed to estimate indebtedness resulting both from credits drawn by the East European states to finance balance-of-payments deficits and from credits for machinery imports which appear in East European but not Western trade statistics. This portion of East European indebtedness is judged to be largely represented by the net East European liabilities to banks as reported by the BIS. The BIS figures are adjusted to allow for the reporting of those BIS member countries (Canada, Japan, Switzerland, and the United States) which do not break out their assets and liabilities by individual East European countries, and estimates are also made for East European indebtedness to Austrian banks.

(c) An aggregation of the two indebtedness figures—estimated supplier credits for financing of equipment imports and the adjusted BIS statistics—together with other known and estimated sources of financing provides a total indebtedness figure. Debt service figures on this debt are necessarily rough estimates; information with respect to terms is available for only a portion of commercial bank lending reported to the BIS and of supplier credits for financing equipment imports.

Outstanding indebtedness at yearend 1975 on government-guaranteed credits as presented by Chase World Information is used as the basis for an approximation of the share of government-guaranteed credits in total East European indebtedness. Because only a small amount of Western government-backed credits is believed to appear in the BIS reporting, the adding of East European net liabilities with Western commercial banks to those outstanding on government-backed credits results in negligible double-counting.

The general methodology described above is modified to incorporate various additional information available for individual East European countries. The treatment of special factors is presented below:

(a) Estimates of the indebtedness of Bulgaria for recent years represent Western government-guaranteed credits outstanding, liabilities to Western commercial banks as reported by BIS and adjusted for gaps, and a loan from Iran. Bulgaria is not believed to be heavily involved in the nonrecourse market.

(b) The indebtedness of Czechoslovakia at yearend 1975 represents government-guaranteed credits outstanding, liabilities to Western commercial banks as reported by the BIS and adjusted for gaps, and West German supplier credits. The indebtedness for earlier years is estimated from published official figures for 1967 (corrected for clearing balances with developing

countries) and an Austrian estimate for 1973.<sup>22</sup> Czechoslovak debt for other years is interpolated and extrapolated from the given figures by estimated changes on current account, adjusted (as necessary) for the revaluation of debts in dollars as a result of shifts in exchange rates.

(c) The total debt of East Germany is estimated as the sum of the known indebtedness to West Germany on clearing account, outstanding guaranteed credits from other Western countries, and the estimated East German position with Western Banks.<sup>23</sup> West German published estimates on East German debt are roughly consistent with our estimates.

(d) The indebtedness of Hungary represents estimated outstanding indebtedness on Western government-guaranteed credits and on West German supplier credits plus the position with Western banks as reported by BIS, adjusted for the usual gaps. Hungary is reliably reported to have had no obligations (through 1975) on the nonrecourse market.

(e) Estimates of Poland's indebtedness represent the sum of liabilities to the United States under PL 480 and CCC, estimated outstanding credits for machinery and equipment, and the position with Western commercial banks as reported by BIS and adjusted for gaps (see Table B1). No allowance has been made for indebtedness on nonrecourse paper held by nonbank creditors in Austria and Switzerland; this may be significant, and Poland's debt, therefore, probably is somewhat understated.

TABLE B1.—POLAND: ESTIMATED STRUCTURE OF THE HARD CURRENCY DEBT AT YEAREND 1975

[In millions of U.S. dollars]

	Liabilities	Assets	Net liabilities
Machinery and equipment <sup>1</sup> .....	2, 225	0	2, 225
Short-term.....	383	0	383
Medium-term.....	1, 041	0	1, 041
Long-term.....	801	0	801
West German supplier credits.....	420	160	260
Medium- and long-term.....	(100)	0	(100)
Public Law 480 (United States).....	236	0	236
U.S. Commodity Credit Corporation.....	48	0	48
Private credits from Western commercial banks.....	4, 620	610	4, 010
Known medium-term.....	(74)	0	(74)
Known long-term.....	(950)	0	(950)
West German official financial credit.....	130	0	130
Kuwait Investment Co.....	24	0	24
Total.....	7, 703	770	6, 933

<sup>1</sup> This figure corresponds closely to the amount believed to be outstanding on Western government-guaranteed credits.

(f) Estimates of Romanian indebtedness are based on a Romanian figure given for the end of 1973 and extrapolated on the basis of estimated current account balances. The Romanian debt includes estimated western government and government-guaranteed credits outstanding, the estimated position with Western commercial banks, West German supplier credits, drawings from the IMF and IBRD, CCC credits, and available information on direct borrowing from the Middle East. Only 85 percent of the debt at yearend 1975 can be accounted for by known sources. The remainder probably consisted of unreported OPEC credits and Western government financial credits in addition to that known to have come from West Germany, and nonrecourse paper held by nonbank creditors in Austria and Switzerland.

<sup>22</sup> By Adam Zwass, whose estimates are believed to come from East European sources. His estimates for other countries are good approximations.

<sup>23</sup> Through 1975, West German banks made no loans to the GDR.

## APPENDIX C

EASTERN EUROPE: POSITIONS VIS-A-VIS WESTERN BANKS<sup>1</sup>

[In millions of U.S. dollars]

	End 1974		End June 1975		End 1975		End June 1976		End 1976	
	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities
Eastern Europe.....	2,000	7,366	1,856	9,601	2,718	11,407	2,742	13,142	3,164	15,639
Bulgaria.....	253	1,038	222	1,396	282	1,690	224	1,785	355	1,973
Czechoslovakia.....	315	275	220	283	250	283	271	500	356	866
East Germany.....	422	1,635	495	2,195	555	2,575	569	2,936	616	3,575
Hungary.....	468	1,437	429	1,878	748	2,194	903	2,726	839	3,051
Poland.....	407	2,076	321	2,935	503	3,870	441	4,372	643	5,442
Romania.....	135	755	168	914	374	830	323	822	295	732

<sup>1</sup> The Western countries reporting by individual East European country are Belgium-Luxembourg, France, Italy, Sweden, the United Kingdom, and West Germany; the Netherlands beginning end June 1975; and branches of U.S. banks in the Bahamas, Cayman Islands, Panama, Hong Kong, and Singapore beginning end 1975.

Source: Bank for International Settlements data.

## APPENDIX D

## EASTERN EUROPE: MAJOR KNOWN SYNDICATED LOANS

[Dollar amount in millions of U.S. dollars]

Date and lender <sup>1</sup>	Loan value (millions of U.S. dollars)	Spreads above LIBOR <sup>2</sup> (per cent)	Grace period (years)	Repayment period	Comments
<b>BULGARIA</b>					
1975—Banker's Trust, Bank of America.....	50	1.25	-----	5	
1976—Bank of America NT.....	120	1.5	-----	5	For development of chemical industry. Commitment fee of 0.5 percent.
Creditanstalt Bankverein....	75	1.375	-----	5	For Bulgarian light industry.
Banker's Trust International.....	100	1.25	-----	5	For capital equipment.
<b>CZECHOSLOVAKIA</b>					
1975—Creditanstalt Bankverein....	60	1.25	2-3	5	
1976—Commerzbank and Deutsche Bank.....	200	1.25	3	5	
<b>EAST GERMANY</b>					
1975—Loeb, Rhoades Co.....	50	1.25	3	5	
Moscow Narodny Bank.....	110	1.375	2	5	
Credit Lyonnaise.....	50	1.375	-----	5	
1976—Bank of America NT and SA.....	175	1.375	2½	5	
1977—Citicorp International.....	150	1.25	-----	6	
<b>HUNGARY</b>					
1975—Westdeutsche Landesbank.....	43	-----	-----	6	Eurobond. Coupon of 8½ percent.
First National City Bank.....	100	1.375	3	5	
Bank of America.....	150	1.375	2½	6	
1976—Banker's Trust International, Ltd.....	150	1.25	2½	5	For industrial development project. Commitment fee of 0.5 percent.
1977—Deutsche Grossenschafts-bank.....	150	1.125	4	5	
<b>POLAND</b>					
1975—Chase Manhattan.....	240	1.5	2	7	For Polish copper industry.
Loeb Rhoades Co.....	50	1.5	-----	5	
Credit Lyonnaise.....	50	1.5	-----	5	For Polish economic projects.

<sup>1</sup> See footnotes at end of table p. 1367.

## APPENDIX D—Continued

## EASTERN EUROPE: MAJOR KNOWN SYNDICATED LOANS—Continued

[Dollar amount in millions of U.S. dollars]

Date and lender <sup>1</sup>	Loan value	Spreads above LIBOR (per-cent) <sup>2</sup>	Grace period (years)	Repayment period	Comments
1976—Lloyds Bank International, Ltd.	100	1.5	-----	6	Toward construction of PVC plant.
French and U.S. banks.....	140	1.5	3	5	Down payment for fertilizer complex.
West German banks.....	82	1.5	-----	7	For coal gasification project. Part of \$1,000,000,000 loan agreed to by West German banks. That part of loan used to finance West German equipment purchases will be fully covered by West German Government.
ROMANIA					
1977—National Westminster.....	50	1.5	-----	5	

<sup>1</sup> Lead bank(s).<sup>2</sup> London Interbank Offered Rate.

## APPENDIX E

EASTERN EUROPE: ESTIMATED DEBT SERVICE RATIOS<sup>1</sup>

[In percent]

	1970	1973	1974	1975	1976
Bulgaria.....	35	35	45	66	75
Czechoslovakia.....	8	15	17	22	30
East Germany.....	20	25	24	27	35
Hungary.....	20	20	24	35	40
Poland.....	20	21	27	43	50
Romania.....	36	35	29	42	42

<sup>1</sup> Repayments of principal on medium- and long-term debt and of interest on all debt as a percentage of merchandise exports to the developed West.

## APPENDIX F

EASTERN EUROPE: ESTIMATED HARD CURRENCY REPAYMENTS AND INTEREST, 1975<sup>1</sup>

[In millions of U.S. dollars]

	Repayment of medium- and long-term liabilities	Interest	Total debt service
Bulgaria.....	140	100	240
Czechoslovakia.....	260	90	350
East Germany.....	500	210	710
Hungary.....	250	130	380
Poland.....	900	400	1,300
Romania.....	500	200	700

<sup>1</sup> Interest represents aggregate interest payments on all hard currency debt.

## APPENDIX G

EASTERN EUROPE: ESTIMATED LONG-TERM DEBT<sup>1</sup>

[In percent of total net indebtedness]

	1970	1973	1974	1975
Bulgaria.....	15	25	25	33
Czechoslovakia.....	15	15	13	13
East Germany.....	10	19	14	16
Hungary.....	19	37	37	42
Poland.....	62	42	36	32
Romania.....	20	25	30	40

<sup>1</sup> Consists of credits of 5 yrs and more.

## APPENDIX H

## EASTERN EUROPE: SELECTED WESTERN GOVERNMENT AND GOVERNMENT-BACKED CREDIT EXTENSIONS

[Dollar amounts in millions of U.S. dollars]

Year and Western nation	Credit available	Interest rate (percent)	Length of repayment (years)	Down payment (percent)	Description
<b>BULGARIA</b>					
1975—Austria.....	\$122	6.5	5	NA	Austrian equipment.
Sweden.....	50	NA	5	25	2 hotels.
1976—Japan.....	280	7.5	2-8½	15-20	Japanese plants, machinery, and equipment
<b>EAST GERMANY</b>					
1975—France.....	136	NA	8	15	Bogie wagons and bogies.
1976—Denmark.....	38	NA	8	NA	Steel mill equipment.
West Germany.....	340	NA	8	NA	3 chemical plants. The credit is being raised by a consortium of West German banks.
<b>HUNGARY</b>					
1976—Japan.....	250	NA	NA	NA	Japanese goods.
<b>POLAND</b>					
1975—Austria.....	230	7.5	5	10	Heavy-duty trucks.
Austria.....	250	NA	5	20	Steel.
Belgium.....	335	NA	7	15	Coal mining equipment; consumer goods.
Canada.....	500	7.75-8	8	10	Kwidzyn pulp and paper mill.
France.....	1,700	7.5	8	15	Police fertilizer plant; capital equipment.
Italy.....	300	NA	5	15	Italian plant and equipment.
Italy.....	200	NA	5	15	Semifinished goods.
Japan.....	180	6.5	8	20	Machinery and equipment.
West Germany.....	425	2.5	25	-----	Financial credit.
1976—Japan.....	450	7.5	8	20	Industrial plant and equipment.
United Kingdom.....	310	7.5	8	15	PVC complex.
United States.....	188	8-9	3	-----	CCC credits.
West Germany.....	124	-----	10	NA	Expansion and modernization of Poland's copper industry. Repayment in copper. The funds are to come from a consortium of West German banks; the credit carries a 7 percent plus floating interest rate.
<b>ROMANIA</b>					
1976—Austria.....	110	6.75-7.75	Up to 10	10	Austrian goods, including Steyr trucks and transportation equipment; 25 percent of each loan may be allocated to non-Austrian goods and 15 percent to local costs in Romania.
Japan.....	200	NA	NA	NA	Supplier credit line.
Japan.....	80	7.5	8½	NA	Modernization of port of Constanta, 2½-yr grace period.
Italy.....	240	7.5	8	15	Italian goods.

# ESTIMATING EAST EUROPEAN INDEBTEDNESS TO THE WEST\*

BY KATHRYN MELSON AND EDWIN M. SNELL

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## INTRODUCTION

Estimates of East European indebtedness in hard currency<sup>1</sup> are founded on a few main sources of information. The two most important are quarterly reports by the Bank for International Settlements (BIS) of the assets and liabilities of commercial banks in 11 Western countries and data issued by the export credit guarantee organizations of Western governments. Other sources include occasional information on bank assets and liabilities from Western countries not reporting to the BIS, West German reports of the cumulative balance on clearing account with East Germany and on "official" long-term assets with the rest of Eastern Europe, reports by U.S. government agencies on outstanding credits given to finance agricultural exports, and data for the International Bank for Reconstruction and Development (IBRD) and the International Monetary Fund (IMF) on sums advanced to Romania. Published sources do not cover credits held by Western suppliers at their own risk, *a forfait* credits held outside commercial banks, and outstanding hard currency claims of East European countries on Western customers, but partial estimates can be made. Estimates are not included for East European indebtedness in hard currency to CEMA's International Bank for Economic Cooperation (IBEC) and International Investment Bank (IIB).

The above remarks apply generally to the sources and limitations of estimates of CEMA countries' indebtedness, including those of Lawrence Brainard, formerly with the Chase Manhattan Bank and presently with Bankers Trust; Professor Gaetano Stammati, President of the Banca Commerciale d'Italia; and those of Janos Fekete of the National Bank of Hungary. All such estimates reflect chiefly information that is widely circulated, most of it published. To be sure, confidential information is also used to bridge some of the numerous gaps in information. But it is now true, as it was not until quite recently, that most of the data needed are published.

Accordingly, a procedure has been outlined for estimating East European assets and liabilities in hard currency at the end of 1975, using published information. It should be borne in mind that other estimates are obtained somewhat differently, with the help of confidential information. Nevertheless, the following exercise brings out most of the considerations involved and draws on the greater part of the data used in making such estimates.

The description of how estimates are obtained begins with a consideration of assets and liabilities of Western commercial banks, continues with government guaranteed and associated supplier credits, and concludes with the numerous special topics mentioned above. Assets and liabilities are then totaled to obtain East European indebtedness, which is broken down by type, by creditor country, and among short-, medium-, and long-term obligations.

#### ASSETS AND LIABILITIES OF WESTERN COMMERCIAL BANKS WITH EASTERN EUROPE

Information published by BIS for the end of 1975 (Table 1) shows the assets and liabilities with individual East European countries and

<sup>1</sup> And on clearing account between East and West Germany.

the U.S.S.R. of commercial banks in seven major West European countries, plus US offshore banks.<sup>2</sup> The entries for the U.S.S.R. also include the assets and liabilities of banks in the U.S. and Canada. A nonitemized residual includes the assets and liabilities of Swiss and Japanese banks with the U.S.S.R. and Eastern Europe, those of banks in the U.S. and Canada with Eastern Europe, and those of most reporting countries (apparently all but those in the U.K. and the Netherlands and U.S. offshore banks) with the CEMA banks.

TABLE 1.—ASSETS AND LIABILITIES<sup>1</sup> OF BANKS IN 11 WESTERN COUNTRIES WITH THE U.S.S.R. AND EASTERN EUROPE AS SHOWN BY THE BANK FOR INTERNATIONAL SETTLEMENTS<sup>2</sup> (END 1975)

[In millions of dollars]

	Assets	Liabilities
Albania.....	86	41
Bulgaria.....	1,600	282
Czechoslovakia.....	288	250
German Democratic Republic.....	2,575	556
Hungary.....	2,194	748
Poland.....	3,870	508
Romania.....	880	374
U.S.S.R.....	* 7,597	* 2,854
Residual.....	† 2,499	† 688
Total.....	21,589	6,301

<sup>1</sup> In domestic and foreign currencies.

<sup>2</sup> The basic source for such data, since early 1976, is the BIS quarterly press release. The above data are the same as those published in the "Forty-sixth Annual Report/1st April 1975—31st March 1976," Basle, June 14, 1976, p. 86, apart from the figures for the GDR, which were later revised. Except for the U.S.S.R. and the residual (see footnotes 3 and 4.) the figures reflect reporting of 7 European countries (excluding Switzerland) plus U.S. offshore banks.

<sup>3</sup> Figures for the U.S.S.R. cover reports from 7 European countries and U.S. offshore banks, plus the United States and Canada.

<sup>4</sup> The residual covers assets and liabilities of banks in Switzerland and Japan with the U.S.S.R. and Eastern Europe; those of banks in Canada and the United States with Eastern Europe; and those of all reporting banks except those in the United Kingdom and Netherlands and U.S. offshore banks with CEMA banks.

There is a strong presumption that the commercial bank assets reported to and by the BIS normally include (in addition to deposits in foreign banks) only loans and credits at the banks' own risk. Beyond doubt, reported claims on foreign banks (and non-banks) exclude bills and notes issued to finance exports that have been accepted (discounted) at the seller's risk; in such a case the bank's claim is against the seller, not the foreign importer or his bank. Similarly, in the case of government guaranteed seller credits, the bank's claim lies against the seller, and in the case of non-payment, against the government guarantee facility. In the case of government guaranteed buyer credit and loans to foreign banks (or import organizations), the bank's claim is against the foreign borrower, although in case of default, the government will reimburse the bank (to the amount specified). Presumably because the government guarantee organization bears the ultimate risk, these claims too are very largely—and probably entirely—excluded from the assets reported to the BIS.

The published evidence, unfortunately, is not conclusive. So far as is known, government guarantees have been available (through 1975) for buyer credits and loans only in domestic currency. The total assets of the eight reporting European countries in domestic currencies, between about \$3.3 billion and \$3.8 billion at the end of

<sup>2</sup> The West European countries are Belgium-Luxembourg, France, West Germany, Italy, the Netherlands, Sweden, and the U.K. The U.S. offshore banks are those in the Bahamas, Cayman Islands, Panama, Hong Kong, and Singapore.

1975,<sup>3</sup> were large enough so that they could easily have included all government guaranteed loans, which at most ran to two hundred million dollars. The \$3.3 billion—\$3.8 billion total, however, is very unevenly distributed by reporting country, the largest part being held in West German banks.

At the beginning of 1975, West German bank assets with Eastern Europe, the U.S.S.R., and the CEMA banks amounted to about 3.9 billion DM (then about \$1.7 billion).<sup>4</sup> At least three-fourths, or 2.8 billion DM, was in domestic currency—some 2.7 billion DM (\$1.1 billion) in the form of bank credits to finance West German exports, all evidently in Deutschemark,<sup>5</sup> and a negligible amount (up to 0.1 billion DM) in government guaranteed buyers credit in DM.<sup>6</sup> The remainder, in foreign currencies, at most 1.1 billion DM (\$0.5 billion), included perhaps 0.1 billion DM participation in loans to CEMA banks,<sup>7</sup> with the rest in *a forfait* credits extended to finance U.S. machinery reexported to Eastern Europe and the U.S.S.R. and subscriptions to syndicated loans to the U.S.S.R. and Eastern Europe. The West German balance of payments surplus with the U.S.S.R. and Eastern Europe was about 7.9 billion DM in 1975,<sup>8</sup> of which over 80 percent was financed by West Germany, the greater part with bank credit. At the end of the year as at the beginning, probably over three-fourths of the 8.3 billion DM (\$3.2 billion) in bank assets, or more than 6.2 billion DM (\$2.4 billion), was in domestic currency. After subtracting again a small amount (up to 0.2 billion DM) of government guaranteed buyer credit in Deutschemark,<sup>9</sup> at least 6.0 billion DM (\$2.3 billion) presumably would be reported to the BIS, or 60–70 percent of the estimated domestic currency assets of the eight reporting European countries.

Most of the remaining \$1 billion to \$1.5 billion in assets in domestic currencies held—probably somewhat unequally—by the other seven reporting European countries doubtless represent bank credits to support their domestic exports (other than sizeable machinery orders). That obviously does not exclude the possibility that some part was in unpublicized government-guaranteed buyer credits or loans. The possibility of a significant overlap of this kind has been discounted as slight, however, in making the present estimates—there is no possibility in the case of the U.S., Canada, and Japan—although the subject must remain open without an authoritative statement from the BIS.

In order to approximate assets and liabilities of Western commercial banks with East European countries, the first step is to

<sup>3</sup> Total assets of the eight reporting European countries were between \$18.9 billion and \$19.4 billion—the total of \$19.1 billion itemized in Table 1, above, plus the \$1.3 billion estimated for Switzerland (Table 2, below), less assets of \$0.4 billion of U.S. banks with the U.S.S.R. (*Treasury Bulletin*, December 1976, pp. 88, 91), perhaps \$0.1 billion of Canadian banks with the U.S.S.R., and \$0.5 billion to \$1 billion of U.S. offshore banks with the U.S.S.R. and Eastern Europe. Of this total, \$15.6 billion was in foreign currencies (BIS, *Forty-sixth Annual Report/1st April 1975–31 March 1976*, Basle, 14 June 1976, p. 83). Domestic currency assets are estimated as the difference.

<sup>4</sup> Representing 8.3 billion DM at the end of 1975 less 4.5 billion DM loaned during the year (*Monthly Report of the Deutsche Bundesbank*, Vol. 28, No. 7, July 1976, pp. 14–15, and Appendix, 1976).

<sup>5</sup> At the end of the first quarter, the amount was 3.5 billion DM; the amount at the beginning of the year is extrapolated. *Frankfurter Allgemeine Zeitung*, 21 May 1975, p. 11. Attributed to the Bundesverband deutscher Banken.

<sup>6</sup> Total amount of government-guaranteed buyers credit and loans authorized under Plafond C, Ausfuhrkredit-Gesellschaft mbH (AKA), *Geschäftsbericht 1974*.

<sup>7</sup> Based on estimated West German banks' participation in the \$350 million loan to IIB at the end of 1975.

<sup>8</sup> *Monthly Report of the Deutsche Bundesbank*, cited above.

<sup>9</sup> Extensions under Plafond C (at the end of 1975) are given as 19 percent of about 1.21 billion DM or 0.23-billion DM. AKA, *Geschäftsbericht 1975*, p. 30.

estimate those included in the nonitemized residual in the BIS data. The assets break down about as follows:

	[In billions of dollars]	
United States.....		0. 50
Assets with CEMA banks.....		. 35
Canada and Japan.....		. 34
Switzerland.....		1. 31
		2. 50

Except for the assets of banks in the U.S. with Eastern Europe, taken from the *Treasury Bulletin*<sup>10</sup> (the source of the BIS figures), these positions are estimated.

Assets with CEMA banks, insofar as included in the BIS residual, are estimated at one-half the consortium loans of about \$700 million outstanding to the two banks.<sup>11</sup> The total is calculated from eleven syndicated loans issued from 1972 through 1975, on the assumption that the \$350 million loan to IIB publicized in October 1975 was drawn down by the end of the year.<sup>12</sup> A list of participating banks available for this \$350 million loan indicates that something less than one-half of the total amount is excluded from the CEMA residual.<sup>13</sup> In the usual loans, much smaller, the participation of the UK banks alone would probably run close to 40 percent of the total, and the excluded amount, all told, might come to over one-half.

The claims of Canada and Japan against Eastern Europe, unlike those of banks in the US, which arise to a substantial extent from US exports, reflect very largely participation in publicized syndicated loans in foreign currencies. These are estimated, approximately, at \$320 million dollars.<sup>14</sup> An additional \$20 million is added arbitrarily for claims of Japanese banks against the U.S.S.R.

The residual, amounting to \$1.31 billion, is assumed to represent Swiss claims against East European and Soviet banks. The net claims of \$1.1 billion (after subtracting liabilities, estimated below) are in about the same proportion to the Soviet-East European import surplus in 1973-75, after subtracting Swiss machinery and equipment sales, as is the case with Austria.<sup>15</sup> So the estimate of gross assets is probably a fair approximation.

The liabilities in the residual represent chiefly short-term deposits and short-term East European claims arising from exports, together with deposits of the CEMA banks in the countries whose positions with these banks are included in the residual. East European short-term deposits in the US of \$90 million are given country by country in the "*Treasury Bulletin*"<sup>16</sup> and cover all liabilities of US banks to Eastern Europe.

<sup>10</sup> Revised figures in "*Treasury Bulletin*," December 1976, pp. 88, 91.

<sup>11</sup> The total amount owed by the CEMA banks was much greater, some \$1.2 billion at the end of 1975, to judge from their published balance sheets; the \$500 million difference is assumed to reflect short-term borrowing on the Eurocurrency market, almost entirely, one may be sure, in London and thus excluded from the BIS residual. For the CEMA bank balances, see "Deyatel'nost' MIB v 1975 godu," *Ekonomicheskaya gazeta*, April 1976, p. 21 and "Deyatel'nost' mezhduнародnovo ekonomicheskovo sotrudnichestva v 1975 g.," *Den'gi i kredit*, August 1976, pp. 83-85.

<sup>12</sup> The assumption is based on the increase in IIB's reported borrowing and loans received in 1975, from 102.7 million rubles to 495.5 million rubles, or \$527 million. The consortium loans drawn, including one of \$70 million in April 1975, amounted to \$420 million gross, strongly indicating that the \$350 million loan was drawn down and that IIB additionally borrowed a considerable amount, probably on short-term.

<sup>13</sup> Tombstone in London, *Financial Times*, 19 December 1975, p.17. The assets excluded are those of banks in the U.K. and Netherlands and offshore U.S. banks, as noted earlier, together with banks in Australia, Austria, New Zealand, and Portugal—countries that do not report to the BIS.

<sup>14</sup> See distribution, Table 2, p. 1375.

<sup>15</sup> See p. 1375.

<sup>16</sup> Figures for the six countries are shown in *Treasury Bulletin*, for example, December 1976, p. 84.

Deposits of CEMA banks (chiefly IIB) in the West were substantial, about \$540 million, according to their balance sheets.<sup>17</sup> For purposes of a rough estimate it is assumed that about one-half of Western liabilities to the CEMA banks (the same proportion as used for the assets) is included in the liabilities reported in the residual. Liabilities of Canadian banks to Eastern Europe and Japanese banks to the USSR and Eastern Europe are very small. Only Czechoslovakia, Poland, and the USSR are assumed to have significant deposits in these countries; minimum estimates are made. The remainder is assigned to Swiss banks; these liabilities may be underestimated.

The allocation of the above estimates of assets and liabilities by individual East European country is bound to be somewhat less accurate than the totals, except for liabilities of banks in the US with Eastern Europe, which are given, as already noted, in the *Treasury Bulletin*. Assets of banks in the U.S. are broken down by East European country from incomplete unpublished information from banks. Assets of Canadian and Japanese banks reflect chiefly estimates of their participation in Eurocurrency loans, which accounts for all but \$20 million, arbitrarily allocated as Japanese assets with the U.S.S.R. (very small apart from government guaranteed credits). The parallel liabilities, very small, as noted, are broken down in proportion to Canadian and Japanese exports to the East European countries. Net Swiss bank assets are broken down on the same basis shown for Austria, below, and gross assets and liabilities estimated in the same proportion.<sup>18</sup>

The results, shown in Table 2, give an approximate idea of the positions vis-a-vis the East European countries included in the BIS residual. The results obtained in this involved way differ from those obtained by Chase World Information Corporation<sup>19</sup> which assigned the BIS residual in the same proportion as for the country figures broken out by BIS. The comparison follows:

[In billions of dollars]

	Present estimates		Chase World Information	
	Assets	Liabilities	Assets	Liabilities
Albania.....	0.09	0.04	.10	0.04
Bulgaria.....	1.85	.32	1.81	.32
Czechoslovakia.....	.52	.31	.32	.28
German Democratic Republic.....	3.20	.62	2.91	.62
Hungary.....	2.46	.78	2.48	.84
Poland.....	4.40	.61	4.38	.57
Romania.....	1.05	.42	1.00	.42
U.S.S.R. (and CEMA banks).....	8.03	3.20	8.59	3.21
Total.....	21.59	6.30	21.59	6.30

<sup>1</sup> Rounding results in a discrepancy between the addenda and the sums.

The present estimate of assets with the U.S.S.R. (and CEMA banks) is lower;<sup>20</sup> estimated assets with the other East European countries—except Hungary—higher, by \$200 million for Czechoslovakia and by almost as much for the GDR. Differences are significant

<sup>17</sup> See p. 1373.

<sup>18</sup> See p. 1375.

<sup>19</sup> *East-West Markets*, 9 August 1976, p. 9. The figures shown there have been rounded to the nearest \$0.01 billion.

<sup>20</sup> Also those with Albania, for which no adjustment was made in the figures shown by the BIS.

in the liabilities of Czechoslovakia and Poland (higher) and those of Hungary (lower), though the absolute amount of these differences is of course small.

TABLE 2.—ALLOCATIONS BY COUNTRY OF THE ASSETS AND LIABILITIES IN THE BIS RESIDUAL FOR THE USSR AND EASTERN EUROPE<sup>1</sup> (END 1975)

[In billions of dollars]

	Banks in the United States <sup>2</sup>		Canadian and Japanese banks <sup>3</sup>		Swiss banks	
	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities
Bulgaria.....	0.10	0.02	0.06	( <sup>4</sup> )	0.09	0.02
Czechoslovakia.....	( <sup>4</sup> )	.03	( <sup>4</sup> )	.01	.23	.02
German Democratic Republic.....	.11	.02	.08	( <sup>4</sup> )	.43	.04
Hungary.....	.01	.01	.08	( <sup>4</sup> )	.18	.02
Poland.....	.18	.07	.10	.01	.25	.02
Romania.....	.10	.04	( <sup>4</sup> )	( <sup>4</sup> )	.07	.01
U.S.S.R. <sup>5</sup> .....			.02	.02	.06	.06
Total.....	.50	.19	.34	.04	1.31	.19

<sup>1</sup> Derived in general as described in the accompanying text. Assets and liabilities with the CEMA banks are not included.

<sup>2</sup> Figures reported to the BIS do not include data for "nonbanking concerns" in the United States, as is evident from a comparison of data for all foreign assets and liabilities given in the "Treasury Bulletin" and as shown in BIS press releases.

<sup>3</sup> The bulk of the assets of Canadian and Japanese banks, as explained in the text, is accounted for by syndicated loans. 4 of the 5 to Bulgaria involve Japanese banks; 1 of the 2 to the German Democratic Republic involves Canadian, the other Japanese banks; of the 7 to Hungary, 4 involve Canadian banks, 2, Japanese banks, and 1, banks from both countries; of the 6 to Poland, 4 involve Canadian, 1, Japanese banks, and 1, both. All date from 1973-75 except 1 from Bulgaria (1972), 1 for the German Democratic Republic (1972), and 1 for Hungary (1971).

<sup>4</sup> Negligible.

<sup>5</sup> Assets and liabilities of banks in the United States with the U.S.S.R. are broken out in the BIS figures.

The only other West European country for which it is feasible—and quite desirable—to make estimates is Austria. The estimates for Austrian banks, already referred to, are deduced from a published statement that the indebtedness of the CEMA countries at the end of 1975 was "some £400 million" (presumably between \$800 million and \$900 million).<sup>21</sup> On the basis of analogy with West Germany, the figure is interpreted as representing net, rather than gross assets. A figure of \$800 million is distributed by country, somewhat arbitrarily, by calculating the import surplus of the East European countries and the USSR in 1973-75 (from their own data)<sup>22</sup> and subtracting Austrian machinery and equipment exports, assumed to be financed under government guarantee. The resulting figures indicate little or no net Austrian assets with either Romania or the USSR. For the remaining countries, the cumulative import surplus, which, as it happens, is about \$800 million, is reallocated in part from Poland to Hungary and to a smaller extent to the GDR, on the assumption that a good deal of Polish paper is held, but none from Hungary and little from the GDR, outside the banking system. The results are shown in Table 3. There is not even a slender basis for calculating Austrian banks' liabilities to Eastern Europe. In view of banking and insurance activities in Vienna and the importance of switch-trade they are probably higher than those of Switzerland.

<sup>21</sup> *The Financial Times*, 25 June 1976, p. 31.

<sup>22</sup> An estimate is involved, since the GDR has not yet published figures on imports (only on turnover) by country, and Bulgaria has published nothing at all. Estimates are made of changes relative to 1974 by means of CEMA statistics on these countries' trade with EFTA. The same thing is done above in comparing East European and Soviet imports from Switzerland in 1971-75.

TABLE 3.—*Estimated net assets of Austrian banks with East European countries*<sup>1</sup>  
(End 1975)

	Assets
Bulgaria.....	82
Czechoslovakia.....	38
GDR.....	232
Hungary.....	233
Poland.....	215
Romania.....	(2)
Total.....	800

<sup>1</sup> As explained in the text.<sup>2</sup> Negligible.

The only other published information on positions of Western commercial banks with Eastern Europe relates to loans extended (or notes purchased) by Iran and Kuwait. Iran agreed to extend a loan of \$185 million to Bulgaria in late 1974 to finance joint projects and a second of \$160 million in early 1975 to finance "production and transport to Iran of Bulgarian livestock and agricultural products."<sup>23</sup> Half of the latter is assumed to have been drawn by the end of 1975; considerably more time presumably would be needed to work out the joint projects to be financed under the former, of which \$50 million for a food packaging complex is assumed to have been drawn in 1975. Iran also extended in 1974-75 a loan of \$420 million to Romania, all assumed to have been drawn by the end of 1975.<sup>24</sup> It is further assumed that no repayments were made on these loans by the end of 1975. There also have been reports<sup>25</sup> of a large loan (\$350 million) by Iran to Poland—\$250 million for expanding the food industry and \$100 million for a joint project to build a paper plant. These reports go back to late 1974, but press reports suggest that the agreed projects were not actually underway by the end of 1975. Provisionally, therefore, the loan is regarded as not yet drawn.

The Kuwait Investment Company (KIC) has also been involved in four known deals with Eastern Europe. Two of them involve Hungary. In November 1974, KIC managed a \$40 million loan issue for Hungary and in the summer of 1975 a second of \$60 million.<sup>26</sup> It is indicated that a considerable part of the \$100 million was subscribed by KIC and other OPEC banks; in the absence of other information, the share is assumed to be at least one-half, all still outstanding at end 1975.

Later in 1975, KIC also extended a \$60 million credit to the Romanian foreign trade bank, to help finance expansion of petrochemical capacity in Romania.<sup>27</sup> In this case it seems clear from the reporting that KIC provided the funds.

Finally, late in the year, KIC apparently arranged a loan for the equivalent of \$23.9 million for Poland; again it may be inferred that the money came from OPEC sources.<sup>28</sup>

In addition to OPEC loans not publicized, the East European countries may have obtained hard currency loans elsewhere in the

<sup>23</sup> Moscow Narodny Bank, *Press Bulletin*, 18 December 1974, p. 10, and 26 March 1975, p. 7.<sup>24</sup> Moscow Narodny Bank, *Press Bulletin*, 7 December 1975, p. 2.<sup>25</sup> For example, *Business Eastern Europe*, 19 November 1976, p. 364.<sup>26</sup> *East-West Markets*, 16 December 1974, p. 7; Moscow Narodny Bank, *Press Bulletin*, 13 August 1975, p. 12.<sup>27</sup> *East-West Markets*, 20 October 1975, p. 7.<sup>28</sup> *East-West Foreign Trade Bulletin*, 14 January 1976, p. 9.

world, as, for example, in Latin America, Hong Kong, Singapore, or European countries (apart from Austria) not reporting to the BIS. The amounts would probably not have been so very large. Similarly, deposits with and from banks in these countries would not greatly affect total Western bank assets and liabilities, certainly not on a net basis.

Approximate totals for assets and liabilities of Western banks with East European countries are obtained by adding the estimates for banks in countries reporting to BIS, those for Austrian banks, and those for Iran and Kuwait, as follows:

[In billions of dollars]

	Assets				Liabilities (in countries reporting to BIS)
	In countries reporting to BIS	In Austria <sup>1</sup>	In OPEC countries	Total	
Bulgaria.....	1.85	0.08	0.13	2.06	0.32
Czechoslovakia.....	.52	.04	-----	.56	.31
German Democratic Republic.....	3.20	.23	-----	3.43	.62
Hungary.....	2.46	.23	.05	2.74	.78
Poland.....	4.40	.22	.02	4.64	.61
Romania.....	1.05	-----	.48	1.53	.42
Total.....	13.48	.80	.68	14.96	3.06

<sup>1</sup> Net assets.

#### GOVERNMENT GUARANTEED CREDIT AND ASSOCIATED SUPPLIER CREDITS

For a time, through the mid-1960's, the big factor in expanding East-West trade, and with it East European indebtedness, was the growing availability of government guaranteed and supplier credits for machinery and equipment sales. Such credits are still growing, and important, although in the 1970's they have run a poor second to bank loans and credits.

The various government organizations that guarantee export credit have not published much information about aggregate extensions to the individual East European countries. The U.S. Export-Import Bank is a notable exception. For the end of 1975, however, fairly comprehensive information is available. This information, shown in Table 4, summarizes the "firm commitments" of the major government guarantee organizations to the U.S.S.R. and East European countries. "Firm commitments" include, in addition to credits outstanding (principal drawn or disbursed less repayments), the balance of approved credits for which contracts have been signed but deliveries—and disbursements—not yet made. So far as is known, only the Export-Import Bank also shows data for amounts outstanding. But Chase World Information Corporation, the source of the data in Table 4, has calculated the undrawn balance, thus providing estimates of the credits outstanding at the end of 1975. The undrawn balances can often be estimated with fair accuracy from information on the specific contracts signed in the recent past; a check of export statistics will usually show what deliveries have actually been made.

TABLE 4.—GOVERNMENT GUARANTEED CREDITS TO THE EAST EUROPEAN COUNTRIES BASED ON "FIRM COMMITMENTS" (END 1975)

[In millions of U.S. dollars]

Western Countries	Bulgaria	Czecho- slovakia	German Democratic Republic	Hungary	Poland	Romania
West Germany.....	110	240	(?)	50	600	380
France.....	300	155	390	40	1,250	230
United Kingdom.....	51	70	75	70	1,700	235
Italy.....	70	59	36	40	310	155
Austria.....	20	190	290	7	700	39
Sweden.....	30	19	84	1	250	29
Japan.....	75	55	57	1	400	180
United States.....	0	0	0	0	122	59
Other.....	61	110	130	32	700	106
<b>Total.....</b>	<b>717</b>	<b>898</b>	<b>1,062</b>	<b>241</b>	<b>6,032</b>	<b>1,413</b>
Not drawn.....	358	415	530	73	3,675	283
Presumed drawn <sup>3</sup> .....	359	483	532	168	2,357	1,130

<sup>1</sup> From "East-West Markets," Sept. 20, 1976, p. 9 (Poland) and Oct. 4, 1976, p. 8 (other countries). The former includes data for the U.S.S.R. and both include entries for bank assets and liabilities shown (in more detail) on p. 1374 and estimates of supplier credits shown on p. 1388.

<sup>2</sup> The original includes total West German assets in the intra-German clearing account, discussed separately.

<sup>3</sup> The amounts presumed drawn are not shown in the original.

Since export guarantee organizations have generally not published such figures as those in Table 4, and since on occasion there has been some question about their consistency, an alternative approach has been developed. This approach involves, first, matching known sales contracts with export statistics, and applying the stated factors<sup>29</sup> for the share of downpayment and self-financing. The resulting credit estimates are then run out over the appropriate repayment period, either according to the terms specified or under the standard practice of the guaranteeing organization at the time. A few contracts are inferred, in the absence of reports, by analogy with the usual practice, as, for example, for the sale of a merchant ship.

The resulting figures are almost certain to be well under the amounts actually outstanding under government guarantee; many smaller orders for which there is no information are covered by government guarantees—the minimums vary from one exporting country to another. Accordingly, exports of machinery and equipment (SITC 7) from the principal exporting countries<sup>30</sup> not allocated to contracts are assumed to be financed, half on medium term (average 3-year) and half on short-term (average 6 month) credit. When the resulting balances are run out and added to the balances due under known and presumed contracts, the total could be expected to include practically all government guaranteed credits outstanding for machinery sales, plus self-financing and an additional, though probably not large, element of supplier credit. From year to year, especially since 1971, the totals carried over as well as the repayments themselves, all kept in terms of dollars, must be revalued to allow for shifts in exchange rates relative to the dollar. Several of the main currencies—notably the Austrian schilling, the Deutschemmark, the Swiss franc, the French franc, the Japanese yen, and the Swedish krona—appreciated relative to the dollar in 1971–1974, while the British pound

<sup>29</sup> Or those normally used by the appropriate export guarantee organization.

<sup>30</sup> OECD countries except Greece, Portugal, Spain, and Turkey.

and the Italian lira depreciated. In 1975, the dollar appreciated relative to most currencies (particularly the end of year position). The rule of thumb used approximates the changes in the U.S. dollar/SDR rates. The results are shown in Table 5.

TABLE 5.—ALTERNATIVE ESTIMATES OF GOVERNMENT-GUARANTEED AND ASSOCIATED SUPPLIER CREDITS OUTSTANDING TO EASTERN EUROPE (END 1975)

[In millions of dollars]

	Long term	Medium term	Short term	Total
Bulgaria.....	181	169	95	445
Czechoslovakia.....	175	378	152	705
German Democratic Republic <sup>1</sup> .....	240	147	55	442
Hungary.....	81	287	108	476
Poland.....	801	1,041	383	2,225
Romania.....	446	362	146	954
Total.....	1,924	2,384	939	5,247

<sup>1</sup> Excluding intra-German trade.

There are various sources of potential error in this procedure. The general assumption is that all exports reported under SITC 7, and only those, are covered under government-guaranteed credits together with self-financing by suppliers. On the one hand, then, it is assumed that exports *not* included in a Western country's export statistics are *not* covered by the country's government guaranteed credits or by self-financing. Such exports to Eastern Europe are assumed, instead, to be financed, if at all, by *a forfait* credits in a third country (often enough, no doubt, through a third country affiliate of the exporter's bank). If anything, this assumption could result in some understatement of the volume of supplier credit; some deliveries covered by government guarantees may have been entered as exports to a third country simply because they were sent there for transshipment. On the other hand, some reported exports of machinery and equipment to Eastern Europe have almost certainly been financed in third countries in Western Europe, as indicated, for example, by West German statistics.<sup>31</sup>

Another source of errors, relatively minor, is the omission from Western export statistics of the value of licenses, blueprints, installation services, and the like covered in some export contracts. The error resulting from this omission would vary from negligible in exports to Hungary up to a couple of percent in exports to Poland.

More serious errors may result from the arbitrary and equal allocation to medium- and short-term credits of exports not accounted for under known or presumed contracts. Most countries in fact are prepared to guarantee credits—long-, medium-, or short-term, as the case may be—on all but the smallest deliveries, up to given limits for each East European country. In general, moreover, these upper limits are rarely approached; West Germany is the notable exception. But the percentage of exports actually covered, and the actual terms of repayment, are likely to vary considerably from those assumed for

<sup>31</sup> West German exports to Eastern Europe (excluding the GDR) by country of purchase (e.g. finance) in 1975 were \$323 million less than by country of destination. Of the total difference, one-half was in exports to Poland, one-fifth in exports to Czechoslovakia, and smaller amounts in exports to other countries. See Aussenhandel, Reihe 1, *Zusammenfassende Übersichten*, December 1975, pp. 25, 27. The differences are explained in that (of opposite direction) for West German exports to Switzerland, and the smaller one for exports to Austria.

medium- and short-term credits. Another possible error could arise from the inclusion of exports financed by Western banks and therefore already covered in BIS reports. Some West German and a little U.S. machinery is in fact financed in this way, so there is some overlap, but probably small, as suggested by a comparison of "firm commitments" with the present estimates.<sup>32</sup> In addition, some machinery may be financed at the supplier's own risk, but this creates no problem, since supplier credit is separately estimated only for West Germany, as a residual after subtracting other types of credit, including the present estimates of government guaranteed credits.

Still another type of error results from the increased use by East Europeans of bank loans as an alternative to government guaranteed (and supplier) credits. In coming years allowance will have to be made systematically for this factor, but through 1975, the only East European country that made substantial use of Western bank loans for this purpose was Hungary, and only an *ad hoc* allowance need be made.

Information and time are lacking to make detailed comparisons of the estimates arising from the approach outlined above with estimates based on official data for "firm commitments." A comparison for the six East European countries indicates at least that the differences between the two sets of estimates are random rather than systematic. As shown in Table 6, the approach outlined above yields higher figures for Bulgaria, Czechoslovakia, and Hungary, but lower figures for the GDR, Poland, and Romania than the estimates of Chase World Information. The totals for the six countries are close—\$5.25 billion using the present approach, as against \$5.03 billion obtained by Chase World Information.

TABLE 6.—ESTIMATES OF GOVERNMENT-GUARANTEED CREDITS TO EASTERN EUROPE: CALCULATIONS FROM "FIRM COMMITMENTS" AND ALTERNATIVE ESTIMATES<sup>1</sup> (END 1975)

[In millions of dollars]

	Calculated from "firm commitments" <sup>1</sup>	Alternative estimates <sup>2</sup>
Bulgaria.....	359	445.
Czechoslovakia.....	483	705.
German Democratic Republic.....	532	442.
Hungary.....	168	476
Poland.....	2, 357	2, 225.
Romania.....	1, 130	954.
Total.....	5, 029	5, 247

<sup>1</sup> From table 4.

<sup>2</sup> From table 5.

Done with the same care, the discounting of official data for "firm commitments" should yield better estimates, if the official data are consistent from country to country—and are properly interpreted. On these assumptions, the estimates of Chase World Information are to be preferred. But quite apart from these assumptions, there remains the problem, already noted, of the availability of official data on "firm commitments." U.S. government estimates have been made without them, and until their continued availability is assured, it seems preferable to continue using the independently obtained series.

<sup>32</sup> See Table 7.

Comparisons of the 1975 estimates from this series with the "firm commitments" of West Germany indicate, however, that not only the estimate for Hungary but also that for Bulgaria is too high. As a result of this comparison, shown in Table 7, the overall totals for both countries are reduced. Known export contracts for Hungary are so few that there is no obvious basis for discounting the estimates; the same problem evidently faced Chase World Information in calculating undrawn credits. In view of the relatively small orders, no great lag need be involved; moreover, as shown below, Hungary has relatively large debts to West German suppliers.<sup>33</sup> Accordingly a rough estimate of \$180 million is made (out of \$241 million in "firm commitments") as against the Chase World Information estimate of \$168 million.<sup>34</sup> In the case of Bulgaria, it seems sufficient to discount the estimate only enough to allow for an average lag in deliveries under West German "firm commitments"; a substantial lag is shown for other countries. The estimate is therefore cut by \$45 million to \$400 million (as against the \$359 million estimated by Chase World Information).

TABLE 7.—COMPARISON OF ALTERNATIVE ESTIMATES FOR WEST GERMAN GUARANTEED AND ASSOCIATED SUPPLIER CREDITS WITH WEST GERMAN "FIRM COMMITMENTS" (END 1975)

[In millions of dollars]

	Firm commitments <sup>1</sup>	Alternative estimates
Bulgaria .....	110	131
Czechoslovakia .....	240	214
Hungary .....	50	189
Poland .....	600	513
Romania .....	380	214

<sup>1</sup> From table 4.

## OTHER ASSETS AND LIABILITIES

### *East-West German Clearing Account*

Of the other assets and liabilities mentioned at the outset, the most discussed are those in intra-German trade. The only accounting available is for assets and liabilities for transactions (including the services covered) entered in the clearing account kept by the two state banks. These are by no means complete, but most other transactions have been financed through third countries (notably Austria and Switzerland) and thus are largely covered in the assets (and liabilities) of banks in those countries.<sup>35</sup>

Information about the status of assets and liabilities under the clearing account is not actually published by the West German government (nor, needless to say, by East Germany). Rather information is provided now and then to newspapers, economic institutes, and authors.

<sup>33</sup> See p. 1382.

<sup>34</sup> An allowance is also made for a small overstatement of Austrian credit to Hungary.

<sup>35</sup> Sometimes for goods licensed to pass directly in intra-German trade, sometimes for goods transhipped through (or delivered from/to) third countries. West German banks doubtless play an important role in such transactions through their foreign affiliates. A reported example involves credits of 500 million DM to the GDR through affiliates in Switzerland and the Bahamas of the Landesbank Rheinland-Pfalz. A question was raised whether such a transaction should be cleared, as those of domestic West German banks must be, through the Bundesbank. See *Düsseldorfer Handelsblatt*, 30 June 1976, p. 6.

Such information has been rather more scarce than usual since 1975, when the last known accounts were shown, for mid-1974, as follows:<sup>36</sup>

[In billions of Deutschemarks]

	West German assets	West German liabilities	Net
Short term.....	1.0	0.3	0.7
Medium term.....	.5	.1	.4
"Swing" balance.....	.6	.....	.6
Total.....	2.1	.4	1.7

The net total—net West German assets—in this accounting is called the "cumulative active balance," which represents the balance of transactions processed through the clearing account (on occasion including retrospective adjustments for service payments), less East German payments in DM to the "special account" S.<sup>37</sup> At the end of 1975, this balance was about 2.4 billion DM (\$0.9 billion), and West German assets (gross) were 3.3 billion DM (\$1.3 billion).<sup>38</sup>

The gross West German assets include commercial credits without guarantee as well as those insured and financed by special official organizations—the Gesellschaft zur Finanzierung von Industrieanlagen mbH (GEFI), set up to parallel the regular export credit organization (HERMES Kreditversicherungs-Aktiengesellschaft), and Treuarbeit AG, set up to parallel the export credit financing corporation (Ausfuhrkredit-Gesellschaft mbH, or AKA). In addition it includes the "swing" balance, for which the maximum in 1975 was 790 million DM. Estimates of the total assets and liabilities at year end 1975 are as follows:<sup>39</sup>

[In billions of Deutschemarks]

	West German assets	West German liabilities	Net
Short term.....	1.6	0.7	0.9
Medium term.....	.9	.2	.7
"Swing".....	.8	.....	.8
Total.....	3.3	.9	2.4

<sup>36</sup> Gerhard Ollig, "Rechtliche Grundlagen des innerdeutschen Handels," in C. D. Ehlermann et al., *Handelspartner DDR—Innerdeutsche Wirtschaftsbeziehungen*, Baden-Baden, 1975. Dr. Ollig was for many years the deputy chief of the division in the Economics Ministry in Bonn responsible for intra-German trade.

<sup>37</sup> For anyone wishing to check the "cumulative active balance" against the transactions in the clearing account (as published in the *Bundesanzeiger*), it may be noted that GDR cash payments from 1967 through 1975 were roughly as follows;

	Million Deutschemarks:
1967.....	100
1968-72.....	100
1973.....	300
1974.....	235
1975.....	100

In addition, the GDR was credited with 250 million DM on the S account in 1971 in consideration of claims for underpayment of postal services to West Berlin since 1966, but this amount also was credited to the GDR on the clearing account. See Bundesminister für Wirtschaft, *10. Bericht über den innerdeutschen Handel und den Aussenhandel der DDR*, November 1976, p. 3; and Horst Lambrecht, "Innerdeutscher Handel—Entwicklung, Warenstruktur, wirtschaftliche Bedeutung," in C. D. Ehlermann, et al., *Handelspartner DDR—Innerdeutsche Wirtschaftsbeziehungen*, Baden-Baden, 1975, p. 84. See also DIW, *Wochenbericht*, 12 April 1973, p. 120; 29 May 1973, p. 170; and 11 March 1976, p. 87.

<sup>38</sup> See, for example, Deutsches Institut für Wirtschaftsforschung (DIW), *Wochenbericht*, 11 March 1976 p. 87.

<sup>39</sup> Apart from the totals and the swing balance, all probably rounded upward from the precise figures, these estimates are guesses based on the last known figures and the increases in trade.

## West German Official Credits to Eastern Europe

Another special case of West German credits is that of the "official" long-term credits to Eastern Europe shown by the Deutsche Bundesbank, furnished by Kreditanstalt für Wiederaufbau (KfW).<sup>40</sup> The outstanding credits, which amount to about 0.8 billion DM (\$0.3 billion) at the end of 1975,<sup>41</sup> include 262 million DM (\$100 million) owed by Romania; <sup>42</sup> the remainder apparently was owed by Bulgaria and Poland. The development of this account since 1967 is shown in Table 8.

TABLE 8.—WEST GERMANY'S LONG-TERM OFFICIAL CREDITS TO EASTERN EUROPE<sup>1</sup> 1967-75  
[In millions of Deutschmarks]

Year:	Disbursed	Repaid	Net	End of year balance <sup>2</sup>
1967	NA	NA	-----	260
1968	40	0	40	300
1969	35	0	35	335
1970	100	0	100	435
1971	0	30	-30	405
1972	0	130	-130	275
1973	200	15	185	460
1974	0	0	0	460
1975 <sup>3</sup>	340	0	340	800

<sup>1</sup> The yearly disbursements and repayments for "state-trading countries" as a group are shown in the balance of payments accounts published in the West German statistical yearbooks. Entries for 1965-67 are zero or negligible. Entries are also shown in appendix, 1973 and later years, broken down among USSR, Eastern Europe, and "other" state-trading countries, but only beginning in 1968.

<sup>2</sup> The year-end positions in 1967 and later years are deduced from the disbursements and repayments and the end-year position in 1975.

<sup>3</sup> The position at the end of 1975 is shown only to the nearest 100,000,000 Deutschmarks. "Monthly Report of the Deutsche Bundesbank," vol. 28, No. 7, July 1976, pp. 11, 14. Some small amounts owed by "other" Communist countries may be included.

In early 1970, Romania could look forward to having to pay some 200 million to 230 million DM to West Germany by 1972, limiting "the possibility for future imports in exchange for convertible currency."<sup>43</sup> As a result the Romanians asked for help, and the West German government provided 100 million DM to help cover payments coming due.<sup>44</sup> This proved not to be enough, and in addition to other help from West German and other sources, the West German government advanced another 200 million DM in 1973.<sup>45</sup> Of the 300 million DM total, 38 million DM apparently were repaid; the remainder is repayable by 1980.

The residual of about .54 billion DM seems to reflect two situations that arose, with Bulgaria in the mid-1960's and with Poland in 1974-75. In 1964-67, Bulgaria's hard currency debt rose rapidly. A great

<sup>40</sup> As in the cases cited below of the 200 million DM to Romania in 1973 and the 340 million DM for Poland in 1975.

<sup>41</sup> The balance outstanding with "centrally planned economies" is shown as a long-term credit in *Monthly Report of the Deutsche Bundesbank*, Vol. 28, No. 7, July 1976, p. 14. The attribution to Eastern Europe, of virtually the entire amount is inferred from the breakdown of annual changes shown in *Appendix to Statistical Supplement to the Monthly Reports of the Deutsche Bundesbank, Series 3, Balance of Payments Statistics*, No. 7, July 1973, 1974, 1975, and 1976 (herein after *Appendix*).

<sup>42</sup> *Wirtschaftswoche*, 21 May 1976, p. 29.

<sup>43</sup> *Düsseldorfer Handelsblatt*, 15 December 1969.

<sup>44</sup> Published reporting refers only to the fact, not the amount. But the amount itself is shown in the 1973 *Appendix*. The same amount and probably the same general terms are discussed in the above cited article from *Handelsblatt*, suggesting that the matter may already have been under advisement.

<sup>45</sup> The amount is shown in *Appendix 1975*, and attributed in the press to refinancing aid for Romania. For the latter, see Adam Zwass, *Zur Problematik der Währungsbeziehungen zwischen Ost und West* (No. 5 in *Studien über Wirtschafts- und Systemvergleiche*, a series of the Vienna Institute for International Economic Comparisons), Vienna, 1974, p. 164, citing *Süddeutsche Zeitung*, 27 July 1973, p. 1.

deal of this indebtedness was to West German suppliers. Bulgaria urgently needed some help with refinancing these debts, and it is a fair guess that a large part—if not all—of the West German official credit of about 260 million DM outstanding to “state trading countries” at the end of 1967 went to Bulgaria, along with smaller official credits of 40 million and 35 million DM granted in 1968–69. All other East European countries can be eliminated—Czechoslovakia by its published balance of payments accounts, the GDR as ineligible, Hungary and Poland as not needing such credits, and Romania—for the greater part—by the known 1975 level.<sup>46</sup>

For several years thereafter—through 1973—Bulgaria in fact succeeded in improving its position with West Germany, while beginning to raise funds on the Eurocurrency market. Repayments of 137 million DM in 1971–73 shown by the Deutsche Bundesbank<sup>47</sup> reflect Bulgaria’s improved position, leaving Bulgaria with remaining liabilities estimated at about 198 million DM (\$75 million) in the mid-1970’s.

A final official credit of 340 million DM (\$130 million) shown in 1975<sup>48</sup> is to be explained in the same way, as help in refinancing very large obligations to West German suppliers. The beneficiary of this credit was Poland; the amount represents the first tranche of a 1 billion DM credit from KfW, drawn 15 November 1975.<sup>49</sup>

#### *U.S. (and Canadian) Agricultural Credits*

Monthly data are available on US agricultural credits to the East European countries. The largest at the end of 1975 was still the \$246 million owed by Poland under PL 480. Poland may not consider this credit part of its hard currency obligations. It represents the unpaid balance on a very long-term interest-free line of credit used in 1957–64 to finance deliveries of grain and other agricultural products to Poland. By agreement, payment has been in part in zloty for use in Poland by the US Embassy, for paying social security pensions of US retirees that have gone back to Poland, and for financing US-supported projects in Poland. The amount outstanding is included here, however, in Polish liabilities in hard currency; the balance, if not paid in US dollars, will largely replace dollars that the US would have had to spend in Poland.

In addition, the US Commodity Credit Corporation (CCC) has extended credits to Hungary, Poland, and Romania to finance sales of agricultural products, partly on short-term (in the case of Poland) but mainly with 3-year repayment. At the end of 1975, Hungary owed less than \$0.5 million; Poland, nearly \$47.6 million; and Romania, nearly \$40.8 million.<sup>50</sup>

The Canadian government’s Export Credit Insurance Corporation (ECIC), which extended similar credits to Czechoslovakia and Poland

<sup>46</sup> The precise allocation of drawings in the 1960’s and repayments in the 1970’s between Bulgaria and Romania are uncertain but not the end positions.

<sup>47</sup> *Ibid.* Total payments by East European countries (excluding the USSR) less repayments attributed to Romania. These repayments are the main basis for attributing to some East European country the implied balance outstanding at the end of 1967.

<sup>48</sup> *Monthly Report of the Deutsche Bundesbank*, Vol. 28, No. 7, July, 1976, p. 11.

<sup>49</sup> FBIS, *Daily Report*, Eastern Europe, 10 October 1975, p. G2, quoting a full report of DPA, including the text of the agreement with Poland.

<sup>50</sup> Information from Agricultural Stabilization and Conservation Service (ASCS/FI/FAB), Department of Agriculture.

in the 1960's, again extended credit to Poland to cover grain sales from 1973/74 through 1976/77.<sup>51</sup> So far as is known neither ECIC nor the Canadian Wheat Board has published data showing the amount, if any, outstanding at the end of 1975. An estimate could be made from trade data, but given that the amount is not so very large—at the end of 1975—none is made here.

### *Romanian Drawings on IMF and IBRD*

Romania's drawings on IMF through the end of 1975 include a gold tranche of 47.5 million SDR and first credit tranche of 47.5 million SDR, both in the spring of 1973, and a drawing of 40 million SDR in November 1975 under a standby credit.<sup>52</sup> All told, the drawings come to 135 million SDR, or (at the conversion rate for end 1975) \$158 million.

IBRD had approved \$350 million in projects for Romania by the end of 1975, but only about \$36 million had been drawn.<sup>53</sup>

### *Supplier Credits Not Elsewhere Covered*

A considerable volume of supplier credit is not included in the above accounts—credits advanced at the supplier's risk and a *forfait* credits sold (rediscounted) by banks to private investors. The transactions covered include some sales of machinery and equipment, but for the most part such credits originate from sales of metals, chemicals, and other basic materials. In general, there is little that can readily be done to estimate the volume of these credits outstanding, but for West Germany—by far the most important source—a calculation can be made.

TABLE 9.—BREAKDOWN BY MAJOR COMPONENT OF WEST GERMAN ASSETS WITH THE EAST EUROPEAN COUNTRIES<sup>1</sup>  
(END 1975)

[In billions of Deutsche marks]

	Bank credit and loans <sup>2</sup>	Government guaranteed credit <sup>3</sup>	Official credit <sup>4</sup>	Supplier credit <sup>5</sup>	Total <sup>6</sup>
Bulgaria.....	0.45	0.25	0.20	0.20	1.1
Czechoslovakia.....	.35	.55	-----	2.50	3.4
Hungary.....	.55	.10	-----	.95	1.6
Poland.....	1.75	1.35	.35	.75	4.2
Romania.....	.40	.55	.25	.40	1.6
Total.....	3.50	2.80	.80	4.80	11.9

<sup>1</sup> Except the German Democratic Republic. The column of totals is given to the nearest 100,000,000 Deutsche marks, as in the source. Estimates in other columns to the nearest 50,000,000 Deutsche marks.

<sup>2</sup> As noted in the text, the estimates of bank assets with individual countries are intermediate in ranges indicated by minima (stated increases in 1975) and maxima (for Bulgaria, Czechoslovakia, and Romania), after allowing for current account balances in previous years (except 1974, when there appears to have been little change). The total is estimated from the total for the entire Sino-Soviet area by means of changes for major parts of the area since the late 1960's.

<sup>3</sup> See pp. 1380-1381.

<sup>4</sup> See pp. 1383-1384.

<sup>5</sup> Residual.

<sup>6</sup> From "Business Eastern Europe," 27 August 1976, p. 266. The sum of 11,900,000,000 Deutsche marks plus the 8,500,000,000 Deutsche marks given by the same source for the USSR, or 20,400,000,000 Deutsche marks, is significantly larger than the 19,600,000,000 Deutsche marks shown for all "centrally planned economies" in Monthly Report of the Deutsche Bundesbank, vol. 28, No. 7, July 1976, p. 14. Moreover, the latter source (p. 15) indicates a total of less than 10,000,000,000 Deutsche marks for Eastern Europe. The differences appear to reflect different estimates (by different sources) of supplier credits ("trade credits"). The higher estimates are more likely, but by no means certain, to be closer to reality.

<sup>51</sup> See, for example, Reuters, *East-West Trade News*, 13 December 1973, p. 7.

<sup>52</sup> IMF, *International Financial Statistics*, February 1976, pp. 8-9.

<sup>53</sup> IBRD: *Statement of Loans*, 31 December 1975.

This calculation, shown in Table 9, distributes the total indebtedness to West Germany of the East European countries (excluding the GDR) at the end of 1975, approximately 11.9 billion DM (\$4.5 billion), among bank credits and loans, government guaranteed credits and loans, official credits, and supplier credits—the residual. Figures on the indebtedness of one or more East European countries to West Germany have occasionally been published. But totals for all countries were made known for the first time in the summer of 1976 by the CDU *Fraktion* in the Bundstag to support its contention that the indebtedness should not be allowed to rise further.<sup>54</sup>

West German bank credits to the East European countries can be estimated roughly. The regional breakdown of the West German balance of payments has for some years shown data for capital accounts with the East European countries separately from those for the USSR and “other” centrally planned economies.<sup>55</sup> The share of the East European countries in the total for all centrally planned economies at the end of 1975 can be estimated with fair accuracy. Estimates for the several countries are inevitably less accurate; they depend on a partial breakdown for 1975, and the annual current account balances for the individual countries,<sup>56</sup> together with limits indicated by other data. In particular, data on West German banks’ participation in syndicated loans help to narrow the range somewhat.

Estimates of government guaranteed credits, shown and discussed earlier, should be reasonably accurate.<sup>57</sup> Official credits outstanding should be nearly exact, on the assumption that the inferences as to attribution are correct.<sup>58</sup>

Accordingly, the estimates of “other” supplier credits should be acceptably close, especially that for Czechoslovakia, which accounts for over one-half of the total, followed by those for Hungary and Poland, which account for most of the remainder. After ample allowance for error, it is still striking that Bulgaria and Romania, having earlier owed West German suppliers substantial amounts, owed very little by 1975. Much of the effort of both countries in the 1970’s to hold down their debts to the West has been directed specifically at reducing debts to West German banks and suppliers. Romania’s debt to West Germany, which peaked at 2 billion DM in 1972, dropped to below 1.9 billion DM by the end of 1973 and to 1.6 billion DM at year 1975.<sup>59</sup>

Czechoslovakia, Poland, and Hungary, on the other hand, much increased their drawings on West German supplier credits, especially in 1974. Czechoslovakia, in particular, has relied on such credits in preference to borrowing in the Eurocurrency market. But even Hungary and Poland, the East European leaders in obtaining syndicated loans, also ran up substantial debts to suppliers. In the case of Czechoslovakia and Poland, but apparently not of Hungary, much

<sup>54</sup> See, for example, *Business Eastern Europe*, 27 August 1976, p. 266.

<sup>55</sup> Appendix, 1973 and later years.

<sup>56</sup> *Monthly Report of the Deutsche Bundesbank*, Vol. 28, No. 7, July 1976, pp. 15, 13. The limit for Czechoslovakia is total bank assets reported by BIS for 7 reporting countries and US offshore banks, less the reported assets of UK banks. Limits are set for Bulgaria and Romania by total indebtedness to West Germany and by other components.

<sup>57</sup> See p. 1381.

<sup>58</sup> See pp. 1383–1384.

<sup>59</sup> The balance at the end of 1972 (or early 1973) is from *Eastern Europe Report*, 13 July 1973, p. 197. At end 1973 Romania owed “somewhat less” than the 1.9 billion DM then owed by Yugoslavia. *Frankfurter Allgemeine Zeitung*, 30 January 1974, p. 17. The amount at end 1975 is given in *Business Eastern Europe*, 27 August 1976, p. 266, as cited above.

of the outstanding credit probably consists of rediscounted *a forfait* credits held privately. The relief provided Poland in 1975 in the form of an "official" credit<sup>60</sup> presumably led to some reduction in these liabilities on "other" supplier credits.

Against these debts should be set, of course, any such assets held by Eastern Europe. West Germany shows liabilities of 2.4 billion DM in "trade credits" with the "centrally planned economies" (still excluding the GDR), all but 0.3 billion short-term.<sup>61</sup> It is assumed that these are roughly in proportion to West German imports from these countries, and they are broken down accordingly—the medium- and long-term liabilities in proportion to machinery imports and the rest in proportion to other imports. The results for the East European countries are shown in Table 10.<sup>62</sup>

TABLE 10.—*Estimates of West German liabilities to East European countries on "trade credits"*<sup>1</sup> (end 1975)

	<i>Deutsche-</i> <i>marks</i> (billions)
Bulgaria.....	0. 05
Czechoslovakia <sup>2</sup> .....	. 375
Hungary <sup>2</sup> .....	. 25
Poland <sup>2</sup> .....	. 425
Romania.....	. 20
<b>Total</b> .....	<b>1. 30</b>

<sup>1</sup> Excluding the German Democratic Republic. The total for the "centrally planned economies" is 2,400,000,000 Deutsche marks (*Monthly Report of the Deutsche Bundesbank*, cited above), of which 25,000,000 Deutsch marks is attributed to the CPR and "other," and 85,000,000 Deutsch marks to the U.S.S.R., based on imports, with the U.S.S.R. credited with 50,000,000 Deutsch marks medium and long term for machinery imports. Of the remaining 25,000,000 Deutsche marks in medium- and long-term liabilities, the shares are allocated as indicated below in footnote 2; the remaining short-term liabilities allocated according to the share in imports.

<sup>2</sup> Czechoslovakia, Hungary, and Poland are credited with 100,000,000, 5,000,000, and 1,000,000 Deutsche marks, respectively, on medium and long term for machinery sales.

When West German assets and liabilities with the East European countries on supplier credits are converted to dollars and set side by side, the results are as follows:

[In billions of dollars]

	West German assets	West German liabilities
Bulgaria.....	0. 08	0. 02
Czechoslovakia.....	. 95	. 14
Hungary.....	. 36	. 10
Poland.....	. 29	. 16
Romania.....	. 15	. 08
<b>Total</b> .....	<b>1. 83</b>	<b>. 50</b>

Chase World Information has published estimates of supplier credits from West Germany, presumably derived from the same total for

<sup>60</sup> See p. 1384.

<sup>61</sup> *Monthly Report of the Deutsche Bundesbank*, Vol. 28, No. 7, July 1976, p. 16.

<sup>62</sup> It is worth noting that the West German liabilities to these countries are in much the same proportion to imports as those to East Germany, shown on p. 1382.

“centrally planned economies.”<sup>63</sup> These compare as follows with the above estimates:

[In millions of dollars]

	Chase World Information	Above estimates
Bulgaria.....	100	80
Czechoslovakia.....	600	950
Hungary.....	0	360
Poland.....	580	290
Romania.....	120	150
Total.....	1,400	1,830

The total given by Chase World Information probably is based on a lower total for East European debt to West Germany than that shown in Table 9.<sup>64</sup>

*Polish Obligations on a Forfait Credits Outside Banks in Austria and Switzerland*

A parallel allowance is made for obligations held outside banks in Austria and Switzerland, but only for Polish obligations. Other countries—except Hungary—also have obligations of this sort, but these are probably much smaller, and no estimate is made for them. But Polish obligations of this type run to several hundred million dollars, at a guess. Based on the downward adjustment made above in estimating Polish obligations to Swiss and Austrian banks,<sup>65</sup> one might estimate that Poland owed non-bank creditors in Switzerland at least \$100 million, in Austria at least \$250 million. These conservative estimates are added to total Polish obligations.

*East European Supplier Credits to Developing Countries*

A word should be added on East European claims arising from substantial deliveries of machinery and equipment on credit to developing countries. Some East European countries, notably Czechoslovakia and Romania, claim large exports, and export surpluses, in convertible currency with developing countries in the 1960's and early 1970's, but there is little reason to suppose that machinery sold on medium- and long-term credit has been paid for in hard currency. In the case of sales to countries with which there was no clearing agreement, special compensation deals were involved, and this probably was the case with large sales even to countries with which clearing agreements still existed.

The only significant hard currency assets would have arisen from sales of military end items on credit. Czechoslovakia in particular has earned substantial amounts of hard currency for selling military end items to all comers, and some part of the balance on credit sales to developing countries should be considered a hard currency asset. The amount outstanding has declined since 1967, when Czechoslovakia claimed \$146 million in long-term hard currency assets with the West,

<sup>63</sup> From "East-West Markets", Sept. 20, 1976, p. 9 and Oct. 4, 1976, p. 8. The entry for Poland includes some supplier credit from Japan.

<sup>64</sup> See footnote 6 to table 9.

<sup>65</sup> See pp. 1373, 1375.

of which some considerable part represented balances due for military end items.<sup>66</sup> A rough estimate, based on calculations through 1974,<sup>67</sup> would put the amount at about \$50 million. The balances for other countries would be much smaller, and no attempt has been made to estimate them.

#### *Debts to IIB and IBEC*

Some of the East European countries owe substantial amounts to the CEMA banks. East European debts to IIB undoubtedly ran well over \$100 million by the end of 1975.<sup>68</sup> They have greatly increased since then, of course, as a result of commitments to the Orenburg pipeline. Debts to IBEC in 1975 may have run several hundred million dollars. Such debts evidently have a bearing on the credit-worthiness of the East European countries. As a practical matter, however, their total liabilities to the CEMA banks cannot be estimated from published information. Until the Soviets become more open about such matters, the East European countries' liabilities to CEMA banks—as well as their access to IBEC funds to ease balance of payments pressures—will remain an open question.

#### *Aggregate East European Assets and Liabilities*

Estimates from the various sources used above are totaled in Table 11 (East European liabilities) and Table 12 (East European assets). The resulting net liabilities at the end of 1975 are as follows:

[In billions of dollars]	
Bulgaria.....	2. 27
Czechoslovakia.....	1. 71
German Democratic Republic.....	4. 17
Hungary.....	2. 40
Poland.....	7. 15
Romania.....	2. 47
Total.....	20. 17

<sup>66</sup> See, Miroslav Koudelka, Dušan Libnar, Miroslav Havel, "Peněžní vstahy v ČSSR," enclosure to *Hodpodářské noviny*, No. 47, 6 December 1968, p. 6.

<sup>67</sup> From a manuscript dealing with Czechoslovakia's balance of payments.

<sup>68</sup> The \$170 million borrowed long-term through April 1975 probably covered the bulk of what was spent in hard currency through 1975. The two known items are some 25.3 million rubles (roughly \$30 million, at the conversion rate of 1971-72) to Czechoslovakia, and 46.3 million rubles to Poland (\$55 million—\$60 million at the average rates in 1971-74). See, for example, *Die Wirtschaft*, 17 January 1973, p. 22; *Nowe drogi*, April, 1975, p. 64.

TABLE 11.—AGGREGATE LIABILITIES OF THE EAST EUROPEAN COUNTRIES IN HARD CURRENCY<sup>1</sup> (END 1975)

[In billions of dollars]

	Bank loans and credit <sup>2</sup>	Government- guaranteed credit <sup>3</sup>	Supplier credit <sup>4</sup>	Other	Total
Bulgaria.....	2.06	0.40	0.08	<sup>5</sup> 0.08	<sup>6</sup> 2.61
Czechoslovakia.....	.56	.70	.95	0	2.21
German Democratic Republic.....	3.43	7.44	-----	<sup>7</sup> 1.26	5.13
Hungary.....	2.74	.18	.36	( <sup>8</sup> )	3.28
Poland.....	4.64	2.22	.29	<sup>10</sup> 0.77	7.92
Romania.....	1.53	.95	.15	<sup>11</sup> 0.34	2.97
Total.....	14.96	4.89	1.83	2.45	<sup>6</sup> 24.12

<sup>1</sup> Together with German Democratic Republic liabilities under the clearing account with West Germany.<sup>2</sup> Including assets of banks in countries reporting to the BIS and Austrian banks and estimated drawings on known OPEC credits; from p. 1377.<sup>3</sup> And associated supplier credit ("self-financing"). For Czechoslovakia, the German Democratic Republic, Poland, and Romania, estimates are from table 6 for Bulgaria and Hungary. See p. 1381.<sup>4</sup> Supplier credits not included in other entries; only from West Germany. See p. 1387.<sup>5</sup> For Bulgaria, "other" liabilities are estimated West Germany "official" credit; see p. 1384.<sup>6</sup> Discrepancy between the addenda and the sums caused by rounding error when converting Deutschmarks into dollars.<sup>7</sup> The figure for government-guaranteed credit owed by the German Democratic Republic excludes credit from West Germany, covered in the overall liabilities separately entered. See footnote 8.<sup>8</sup> Total liabilities to West Germany under the clearing account are entered here. See p. 1382.<sup>9</sup> Negligible.<sup>10</sup> The entry includes West Germany "official" credits to Poland, Poland's liabilities to the United States under Public Law 480 and CCC program (see p. 1384) and liabilities to other than banks in Austria and Switzerland (p. 48).<sup>11</sup> Rumania's "other liabilities" include those to West Germany under official credit (p. 1388), to the United States under CCC (p. 1384) and drawings from the IMF and IBRD (p. 1385).TABLE 12.—AGGREGATE ASSETS OF THE EAST EUROPEAN COUNTRIES IN HARD CURRENCY<sup>1</sup> (END 1975)

[In billions of dollars]

	With Banks <sup>2</sup>	Supplier Credits <sup>3</sup>	Other	Total
Bulgaria.....	0.32	0.02	-----	0.34
Czechoslovakia.....	.31	.14	4.05	.50
German Democratic Republic.....	.62	( <sup>4</sup> )	6.34	.96
Hungary.....	.78	.10	-----	.88
Poland.....	.61	.16	-----	.77
Romania.....	.42	.08	-----	.50
Total.....	3.06	.50	.39	3.95

<sup>1</sup> Together with German Democratic Republic assets under the clearing account with West Germany.<sup>2</sup> Assets with banks in countries reporting to the BIS and in Austria.<sup>3</sup> Estimated supplier credits outstanding to West Germany; see p. 1387.<sup>4</sup> Estimated claims in hard currency on developing countries for sales of military end items on credit.<sup>5</sup> German Democratic Republic supplier credits to West Germany are shown under "other"; see footnote 6.<sup>6</sup> West German liabilities of 900,000,000 DM (see p. 1382) converted at the end year rate (2.6223 DM-\$1).

The accuracy of these estimates varies according to the principal sources used for East European liabilities, as follows, in order of probable accuracy:

(a) U.S. government agricultural credit, the balance of the intra-German clearing account, West German official credits and Romanian drawings on IMF and IBRD—all official sources presumed to be accurate to the degree specified.

(b) Assets and liabilities of commercial banks in countries reporting to the BIS and those in Austria—the totals for Eastern Europe are correct almost within the range of original reporting error; the estimates for most countries—all but Czechoslovakia—have a range of error of perhaps 1-3 percent.

(c) Supplier credits from West Germany (excluding intra-German trade)—error could be largely balanced by offsetting errors in government guaranteed credits.

(d) Government guaranteed and related supplier credits—the estimates for the GDR, Poland, and Romania are probably correct within 10 percent as a result of the high proportion of known credits; estimates for Bulgaria, Czechoslovakia, and Hungary are less accurate.

(e) Loans from OPEC countries—drawings on publicized loans by the end of 1975 are in some cases uncertain, and other loans (and perhaps deposits) may have been made to East European banks; no range of error can be assigned.

On the basis of these considerations, the estimate of liabilities for the GDR is considered probably the most accurate, followed by that for Poland—both probably accurate within 5 percent. Those for Bulgaria, Czechoslovakia, and Hungary follow, probably accurate within 10 percent. The range is much higher for Romania because of heavy use of OPEC credits and the likelihood of other refinancing in addition to that from West Germany. The estimate may be low by 15 percent or more.

These remarks relate only to estimates of the sources used. Bank and supplier credits from other sources—including the CEMA banks—would add an unknown amount to East European liabilities.

More or less the same judgments for net liabilities result from comparison with cumulative current account balances. The estimates of these balances for 1959–71, published in 1974,<sup>69</sup> have been revised and updated through 1973 or 1974; they are intended for eventual publication, after further correction and updating. The principal revisions have dealt with balances with developing countries. The continuation of the series for the GDR, Hungary, and Poland, with minor revisions, results in cumulative balances fairly consistent with estimated net liabilities, allowance being made for known changes from 1974 to 1975. Data problems remain in the series for Bulgaria and Czechoslovakia; as the series stand, they indicate significantly lower estimates of net indebtedness than those shown above. The series for Romania, after substantial revision, appears fairly solid; the cumulative balance indicates a substantially greater figure for net liabilities than shown above.

### *Structure of Gross Liabilities*

Some knowledge of the type, sources, and maturities of East European liabilities to the West evidently is necessary for considering their economic and political implications. Unfortunately, the structure, or composition, of the liabilities is even harder to estimate than the totals.

The data used to estimate total liabilities obviously provide some materials for analyzing the debts by type. But the largest element, bank credits and loans, represents a mixture of two quite different kind of liabilities—from credits directly related to specific exports and from credits and loans not so related. This distinction is important, even though there is a gray area—clean credits and syndicated loans are often extended with some understanding about what the money

<sup>69</sup> Edwin M. Snell, "Eastern Europe's Trade and Payments With the Industrial West," *Reorientation and Commercial Relations of the Economies of Eastern Europe*, published for the Joint Economic Committee, August 16, 1974, pp. 682–724.

will be spent for. In general, credits and loans in domestic currencies are directly related to exports;<sup>70</sup> most of the remainder, not so related. For Eastern Europe and the USSR together, it has been estimated that at the end of 1975, the European BIS members held \$3.3 billion to \$3.8 billion of their assets in domestic currencies, as against \$15.6 billion in Eurocurrencies.<sup>71</sup> That is, up to 20 percent of the assets was directly related to specific exports; 80 percent or more, not so related. Data for the individual East European countries have not been released; it is not even practicable to make comparable estimates for earlier years.

On the assumption that roughly 20 percent of East European liabilities to European commercial banks, or about \$2.3 billion, was in domestic currency, and with the addition of short-term liabilities to the US and most liabilities to Austria, or about \$1 billion, a total of about \$3.3 billion in bank credits was directly connected with specific exports. To this could be added government guaranteed credits of almost \$5 billion, supplier credits of nearly \$1.8 billion, GDR liabilities of almost \$1.3 billion to West Germany, a little over \$0.3 billion owed on US agricultural credits, and Polish liabilities of \$0.4 billion to non-banks in Austria and Switzerland to make all told \$12.1 billion in liabilities directly connected with Western exports, or 50 percent of total gross liabilities. For Bulgaria, the GDR, and Romania, the share is probably somewhere between 40 percent and 50 percent; for Czechoslovakia and Poland, considerably higher; for Hungary, much lower.

A partial breakdown by Western creditor follows readily enough from the available data. It is not practicable to break out bank credits by country for Belgium-Luxembourg, France, the Netherlands, and Italy; accordingly, no effort to break out government guaranteed credits for these countries is attempted. A breakdown of assets and liabilities to commercial banks is shown in Table 13; one for government guaranteed credits, in Table 14; and one for all liabilities and assets, including other types, in Table 15. The largest shares are that of West Germany, nearly one-fourth, followed by the UK, just under one-fifth. France doubtless follows. No other country probably holds as much as 10 percent of the debt; the US share is only 4 percent.

<sup>70</sup> There are counter examples, of course, such as the 100 million DM in Hungarian notes issued on the West German market in 1975. *Duesseldorfer Handelsblatt*, 29/30 August 1975, p. 10. These notes apparently were bought up by West German banks. A special case is that of subscription by banks in the US to syndicated loans denominated in dollars.

<sup>71</sup> See footnote 3, p. 1372. The figures include assets with the U.S.S.R.

TABLE 13.—BREAKDOWN OF ASSETS OF COMMERCIAL BANKS WITH EAST EUROPEAN COUNTRIES BY WESTERN COUNTRY<sup>1</sup> (END 1975)

[In billions of dollars]

	Bulgaria	Czecho- slovakia	German Democratic Republic	Hungary	Poland	Romania	Total
West Germany.....	0.17	0.13	(*)	0.21	0.67	0.15	1.33
United Kingdom <sup>2</sup> .....	.60	.10	1.04	.64	1.41	.30	4.09
Switzerland.....	.09	.23	.43	.18	.25	.07	1.25
Austria <sup>3</sup> .....	.08	.04	.23	.23	.22	(*)	.80
Other Europe <sup>4</sup> .....	.83	.06	1.54	1.34	1.79	.43	5.99
United States.....	.10	(*)	.11	.01	.18	.10	.50
Canada/Japan.....	.06	(*)	.08	.08	.10	(*)	.32
Total.....	1.93	.56	3.43	2.69	4.62	1.05	14.28

<sup>1</sup>Based on totals reported to BIS by countries (table 1), estimates for the United States, Canada/Japan, and Switzerland (table 2), estimates for Austria (table 3), and West German assets (table 9, converted to dollars at 2.6223 Deutschmarks=\$1). Excluded are assets of OPEC countries—see table 16.

<sup>2</sup>West Germany does not report bank assets and liabilities with the German Democratic Republic; those not included in the clearing account were probably still very small in 1975.

<sup>3</sup>United Kingdom assets and liabilities are only for Eurocurrencies, but those in sterling are probably very small. Assets are given as reported in the Bank of England Quarterly Bulletin, table 21. Data include assets and liabilities of "certain other institutions" (than banks); a comparison of assets and liabilities in foreign currencies with "nonresidents" as reported in the Quarterly Bulletin and in BIS press releases shows that these other institutions are included in reporting to and by the BIS.

<sup>4</sup>Assets of Austrian banks are shown net, not gross.

<sup>5</sup>Negligible.

<sup>6</sup>Residual for those countries reporting to the BIS not separately shown above; the numbers perforce include the very small United Kingdom assets and liabilities in sterling.

TABLE 14.—BREAKDOWN OF GOVERNMENT GUARANTEED CREDITS TO EAST EUROPEAN COUNTRIES BY WESTERN COUNTRY (END 1975)

[In billions of dollars]

	Bulgaria	Czecho- slovakia	German Democratic Republic	Hungary	Poland	Romania	Total
West Germany <sup>1</sup> .....	0.10	0.21	(*)	0.04	0.51	0.21	1.07
United Kingdom <sup>2</sup> .....	.20	.07	0.04	.03	.22	.06	.62
Switzerland <sup>3</sup> .....	.01	.02	.03	.01	.14	.02	.23
Austria <sup>4</sup> .....	.01	.07	.03	(*)	.10	.02	.23
Other Europe <sup>5</sup> .....	.05	.31	.32	.10	1.03	.54	2.35
United States <sup>6</sup> .....					.09	.04	.13
Canada/Japan <sup>7</sup> .....	.03	.02	.02	(*)	.13	.06	.26
Total.....	.40	.70	.44	.18	2.22	.95	4.89

<sup>1</sup> Figures from table 9, above, converted at 2.6223 Deutschmarks=\$1.

<sup>2</sup> Included in the total for the intra-German clearing account, shown in table 15.

<sup>3</sup> Estimated by the same procedure used for total government guaranteed credits and for those of West Germany. The total for Eastern Europe, including the U.S.S.R., was \$38,000,000. See "Österreichische Kontrollbank Aktiengesellschaft," "Export Credit Guarantees and Export Financing in Austria", Annual Report 1975, p. 26.

<sup>4</sup> Represents 1/5 of the unitized residual in overall "firm commitments" from table 4.

<sup>5</sup> Negligible.

<sup>6</sup> Residual. Chiefly Belgium-Luxembourg, Italy, France, Netherlands, and Sweden. Also includes small amounts for Denmark, Finland, and Norway.

<sup>7</sup> Official Ex-Im Bank figures; only Poland and Romania were eligible for such credits.

<sup>8</sup> Represents 1/3 of the unitized residual in overall "firm commitments" for Japan only, from table 4.

TABLE 15.—SHARES OF VARIOUS WESTERN COUNTRIES IN AGGREGATE LIABILITIES OF EAST EUROPEAN COUNTRIES<sup>1</sup> (END 1975)

[Dollar amounts in billions]

	Bulgaria	Czechoslovakia	German Democratic Republic	Hungary	Poland	Romania	Total	Percent
West Germany.....	\$0.42	\$1.30	\$1.26	\$0.61	\$1.60	\$0.61	\$5.80	24
United Kingdom.....	.80	.17	1.08	.67	1.63	.36	4.71	19
Switzerland.....	.10	.25	.46	.19	.49	.09	1.58	7
Austria.....	.09	.11	.26	.23	.57	.02	1.28	5
Other Europe.....	.87	.34	1.84	1.44	2.70	.92	8.11	34
United States.....	.10	(*)	.11	.01	.56	.18	.96	4
Canada/Japan.....	.10	.04	.12	.08	.35	.11	.80	3
OPEC countries.....	.13			.05	.02	.48	.68	3
IMF/IBRD.....						.19	.19	1
Total.....	2.61	2.21	5.13	3.28	7.92	* 2.97	* 24.12	10

<sup>1</sup> From tables 13 and 14, above, plus items entered under "supplier credit" and "other" in table 11.<sup>2</sup> Negligible.<sup>3</sup> Sums of addenda differ from totals because of rounding.

Such a breakdown of overall assets by creditor country is in fact rather misleading in that a very substantial part of the total held by banks in Western Europe arises from the funds of foreign-owned banks—notably, but by no means exclusively, US and Communist banks. The policies are made, and the risks assumed, in the country of ownership, not that of location, although the history and general banking policy of the UK, for example, are influential in making London a center of international banking.

A breakdown by maturities would surely be the most useful of all, but there is not enough information, least of all about the assets of Western banks, to work out a schedule of repayments. The long-term element of bank credit and loans can be approximated from publicized Eurocurrency loans, although terms of payment—especially grace periods—are not always available. Long-term government guaranteed credits and loans can be estimated from Table 5, above, to which OPEC loans, Romanian drawings on IMF (in part) and IBRD, West German official credit, and Polish obligations under PL 480 should be added. The resulting estimates of long-term credits and loans outstanding are shown in Table 16, in total amount and shares of aggregate obligations. The shares range widely, from 40 percent for Romania to 8 percent for Czechoslovakia and 9 percent for the GDR. For the other three countries, the share is close to one-fourth. It is a bit less than that for East European obligations as a whole. Perhaps two-thirds of the long-term obligations shown will fall due by 1980.

TABLE 16.—LONG-TERM OBLIGATIONS AS A SHARE OF TOTAL EAST EUROPEAN LIABILITIES (END 1975)<sup>1</sup>

(Dollar amounts in billions)

	Bulgaria	Czech- oslovakia	German Demo- cratic Republic	Hungary	Poland	Romania	Total
Syndicated credits and loans <sup>1</sup>	\$0.23		\$0.11	\$0.76	\$0.98		\$2.08
Government-guaranteed credits and loans <sup>2</sup>	.18	\$0.18	.36	.08	.80	\$0.45	1.93
OPEC loans <sup>3</sup>	.13			.05	.02	.48	.68
IMF/IBRD drawings <sup>4</sup>						.13	.13
West German "official" credits <sup>5</sup>	.08				.13	.10	.31
Polish obligations under Public Law 480 <sup>6</sup>					.25		.25
Total long term	.62	.18	.47	.89	2.18	1.18	5.40
Total obligations <sup>7</sup>	2.61	2.21	5.13	3.28	7.92	2.97	24.12
Long-term obligations as percentage of total obligations	24	8	9	27	28	40	22

<sup>1</sup> Based on reports in financial journals and East-West trade publications, together with more comprehensive aggregate data in OECD Financial Statistics, the IMF Survey, and bond prospectuses issued by the National Bank of Hungary. Cover obligations with repayment terms of over 5 years.

<sup>2</sup> From table 5, above, except for the GDR. The entry for the GDR includes an estimate of outstanding long-term credit in intra-German trade, from Treuarbeit AG (credit insurance organization for intra-German trade). Semiofficial breakdowns, of the clearing balances with the GDR (as shown on p. 1382) indicate only short- and medium-term credit is provided but Treuarbeit AG can provide credit of up to 8 yr.

<sup>3</sup> From p. 1377.

<sup>4</sup> Include gold and credit tranches from the IMF, but not drawings on standby credit. Drawings on IBRD credit are all long term. See p. 1385.

<sup>5</sup> See pp. 1383-84.

<sup>6</sup> See p. 1384.

<sup>7</sup> From table 11.

To divide the large remainder between medium-term and short-term obligations is scarcely possible. One may guess—on the strength of US and West German data—that from one-third to one-half of all bank credits directly connected with exports, or from \$1.1 billion to \$1.8 billion, is short-term. Perhaps one-third of West German supplier credits, another \$0.6 billion, is short-term, and perhaps \$0.6 billion to \$0.7 billion in Western government guaranteed credits. Finally, a very uncertain amount of Eurocurrency liabilities, from \$2 billion to \$4 billion, would be short-term, mainly under lines of credit renewed (rolled over) from period to period. Thus from \$4.3 billion to \$7 billion, more or less, or from 20 percent to nearly 30 percent of all liabilities are short term. The share is probably less than 20 percent for Hungary, Poland, and Romania.

The remainder, ranging from 40 percent for Romania to between 60 percent and 70 percent for Czechoslovakia and the GDR, is made up of medium-term credit, that is, credit running from over 1 year up to 5 years. In order to calculate debt service, schedules of liabilities in this range would be especially necessary. That is least of all practicable at the moment. Since a great deal of the borrowing in this range occurred in 1974-75, it is a fair guess that a great deal of it will have been repaid within another year.

# THE MFN IMPACT ON U.S. IMPORTS FROM EASTERN EUROPE

BY HELEN RAFFEL, MARC RUBIN, AND ROBERT TEAL\*

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## 1. INTRODUCTION AND SUMMARY

The thaw in East West relations which began in the late 1960s has led to greatly increased trade between the CMEA<sup>1</sup> nations and the industrialized West. The United States, however, has lagged behind the other Western countries in developing inter-governmental commercial agreements with the communist countries, in liberalizing export restrictions, in granting financial concessions, and in reducing discriminatory restrictions against CMEA country imports.

At present, the United States is the only major Western industrialized country which has not granted Most Favored Nation (MFN) tariff treatment<sup>2</sup> to all of the communist countries discussed in this paper. Poland has been receiving MFN treatment from the United States since 1960, and Romania since mid-1975. None of the other communist countries receives MFN from the United States.

Official representatives of the Soviet Union, and of other Eastern European communist countries that do not receive MFN treatment from the United States, frequently assert their belief that the granting of MFN would enable their countries to increase greatly their exports to the United States. In addition, they see in MFN a political signal of more relaxed relationships.

This paper treats only the economic aspect of MFN. It attempts to answer two questions:

1. How much greater would U.S. imports from Bulgaria, Czechoslovakia, the German Democratic Republic (G.D.R.),

\*The authors wish to thank Anne Griese and David Sanderson for their statistical assistance.

<sup>1</sup> CMEA stands for the Council for Mutual Economic Assistance also known as COMECON. The members are Bulgaria, Cuba, Czechoslovakia, the German Democratic Republic (G.D.R.), Hungary, Mongolia, Poland, Romania, and the U.S.S.R.

<sup>2</sup> "Most Favored Nation" is not an apt description of the set of tariff rates that the expression designates. The United States as well as other Western countries provide still more favorable rates than the "Most Favored" rates for selected trade partners. A better nomenclature might be "Non-discriminatory" tariff treatment, which is to say, not adversely discriminatory against communist countries per se.

Hungary, Romania, and the U.S.S.R. have been in 1974 and 1975, if these countries had been receiving MFN tariff treatment from the United States in these two years;<sup>3</sup> and

2. How much lower would U.S. imports from Poland have been in these two years had Poland not been receiving MFN treatment.

The model used is of a comparative statics type, which means that estimates include the total impact of MFN, after all of its effects had been realized, given the other conditions pertaining in 1974 and 1975. The validity of our model for predicting the impact upon U.S. imports from the communist countries if MFN is granted at some future time is discussed in the final section of the paper.

The model provides an econometric estimation of the relative shares of the Industrialized Western<sup>4</sup> (I.W.) countries in the total I.W. imports of any given product from a given Eastern country. The share of a particular I.W. country is assumed to be explicitly dependent upon several variables, among them the tariff it raises against the given product from the given Eastern country. Once the parameters of the relationship have been estimated from actual data, a hypothetical tariff rate can be inserted into the equation, in place of the actual rate, and the corresponding new share calculated. The model is described in detail in Section 3.

Calculations were made for the years 1974 and 1975 for a substantial portion of the exports to the West of each of the Eastern countries, at the 4 or 5-digit SITC<sup>5</sup> level of product disaggregation. The results obtained for U.S. imports from the Eastern countries under the assumption that MFN had been granted to all of them indicate generally modest rises in total imports, but marked rises for a small number of products. The model indicates that, given MFN, total imports from the U.S.S.R. would have risen 7-9 percent, the lowest percentage rise of the six countries; imports from the G.D.R. would have risen well over 200 percent, the largest percentage rise of the six. But the percentage rises ran roughly inversely to the value of total U.S. imports from each country. The predicted percentage rises generally translated into a rise in imports from each country of about \$30 million, yielding a rise in total imports from the six countries, in both 1974 and 1975, of roughly \$185 million, an amount equal to 30 to 40 percent of the actual totals for these years. The estimated increases for each country may be found in Table 1 of Section 4.

On the individual product level, the greatest effects would have been on clothing; zinc, aluminum and copper; wooden furniture; and iron and steel (not high carbon or alloy) semimanufactures. The model indicated that U.S. imports of these items from most of the Eastern countries would have increased noticeably. In addition, rises were pre-

<sup>3</sup> Romania has been receiving MFN tariff treatment since August 3, 1975. To the extent that the granting of MFN affected U.S. imports from Romania during the last half of 1975, our prediction of the rise is already incorporated in the actual data. It is our belief that the total impact would not be felt until several years after MFN had gone into effect, and this supposition would appear to be borne out by comparison of actual 1975 U.S. imports from Romania and the predicted increase, provided in Table 8 of Section 4.

<sup>4</sup> The group of countries herein designated as "Industrialized Western" (I.W.) consists of Austria, Belgium, Canada, Denmark, The Federal Republic of Germany (F.R.G.), France, Italy, Japan, Luxembourg, the Netherlands, Norway, Sweden, Switzerland, the United Kingdom and the United States. Belgium and Luxembourg report trade data as a combined customs union.

<sup>5</sup> SITC is the Standard International Trade Classification nomenclature used by the United Nations. The highest level of disaggregation is the 4-digit level for some types of products and the 5-digit level for others. Successive digits added to a given numerical code signify successive subcategories of the class with the same initial digits. There are a total of 56 2-digit divisions, subdivided down to 1312 items at the 4- to 5-digit level.

dicted for such country specific products as canned vegetables from Bulgaria, hops and ferro-alloys from Czechoslovakia, cameras from the G.D.R., and alumina from Hungary. Details are provided in Tables 3 through 9 of Section 4.

Finally, it would appear from our analysis that if Poland had not been receiving MFN treatment in 1974 and 1975 then total U.S. imports from Poland would have been only 2 to 3 percent lower.<sup>6</sup> Clothing items, as usual, were the big gainers from MFN. Zinc, copper, synthetic rubber, and foundry equipment would also have been affected.

## 2. COMPARISON WITH PREVIOUS WORK

Earlier predictions of the MFN-induced rise in aggregate U.S. imports from Bulgaria, Czechoslovakia, the G.D.R., Hungary, Romania, and the U.S.S.R. ranged from a low of 0 to 19 percent,<sup>7</sup> through 129 to 194 percent,<sup>8</sup> to a still higher-reaching span of 103 to 252 percent.<sup>9</sup> All three of these sets of estimates apply to the year 1971, three to four years earlier than the period examined in the present paper. These percentage rises may be compared with our estimates of 30 to 40 percent, higher than the lowest range previously predicted, but considerably lower than the other two sets of results.

The study by Jelacic, which indicates the smallest estimated impact, was based on data for total imports from each European CMEA country by each of twelve Western countries; there was no commodity disaggregation. The Wolf study, with intermediate range results, disaggregated U.S. imports to the SITC 2-digit level, but part of his analysis depended on data at a higher level of aggregation. The third study, by Elias and Searing, remained consistently at the 2-digit level. Our study, on the other hand, examines products at the SITC 4 or 5 digit level, a much higher degree of disaggregation than that of any previous quantitative study, and a level close to that upon which the tariff structures of the Western countries actually impinge.<sup>10</sup>

Because we have adapted elements from each of these previous studies, we will briefly outline their approaches to the MFN problem.

The Wolf study, resulting in the intermediate range of estimated percent rise in imports, was the earliest of the three. Wolf decomposed the MFN impact into two theoretical effects: (1) The substitution of lower cost (because of lowered tariff) communist products for import-

<sup>6</sup> These results, obtained here from cross-section analysis, reinforce previous work on the Polish response to MFN based on time series analysis, that discerned very little MFN sensitivity. See Thomas A. Wolf, *Effects of U.S. Granting of Most Favored Nation Treatment to Imports from Eastern Europe: The Polish Experience*, International Institute of Management, Berlin, (February, 1973).

<sup>7</sup> John E. Jelacic, *Impact of Granting Most Favored Nation Treatment to the Countries of Eastern Europe and the People's Republic of China*, United States Tariff Commission (1974).

<sup>8</sup> Thomas A. Wolf, *The Quantitative Impact of Liberalization of United States Unilateral Restrictions on Trade with the Socialist Countries of Eastern Europe*, U.S. Department of State External Research Study (Feb. 16, 1972).

<sup>9</sup> Thomas A. Wolf "The Impact of Formal Western Restraints on East-West Trade: An Assessment of Existing Quantitative Research" in John P. Hardt, ed., *Tariff, Legal and Credit Constraints on East-West Commercial Relations* Institute of Soviet and East European Studies, Carleton University, Ottawa, Ontario, Canada (1975).

<sup>10</sup> Professor Wolf has written a number of papers on various aspects of East-West trade barriers, and is a leading authority on the subject.

<sup>11</sup> Andrew Elias and Marjory E. Searing "A Quantitative Assessment of U.S. Constraints on Trade with Eastern Europe and U.S.S.R." in John P. Hardt, ed., *Reorientation and Commercial Relations of the Economies of Eastern Europe*, Joint Economic Committee of Congress (Aug. 16, 1974) pp. 599-661.

<sup>12</sup> In the United States, the Tariff Schedule (T.S.U.S.) applies at the 5-digit level of disaggregation, but the T.S.U.S. nomenclature differs from the SITC nomenclature. The tariff rates applicable to those 5-digit T.S.U.S. categories which concord with a given 4 or 5-digit SITC category had to be averaged in order to be applied to data expressed in SITC nomenclature. It was necessary to use SITC nomenclature throughout because only then could the data of the various Western countries be compared. Other Western nomenclature is similarly country-specific, and also needed to be converted to a common nomenclature.

competing products produced in the United States, and (2) the substitution of lower cost communist products for imports from foreign countries that had already been enjoying MFN in the U.S. market. The second effect was taken into account by a market shares approach, since estimates of elasticities of substitution were lacking.<sup>11</sup> For each 2-digit SITC product group, the communist country market share in a group of other Western markets where communist products received MFN treatment (the O.E.C.D. countries other than the United States) was compared with its share in the United States. The share in the other Western markets was taken to correspond to the U.S. MFN share provided that: (1) The difference between U.S. and other Western market shares was above average; (2) the product was one of "rapid" growth in communist country exports; (3) the discriminatory tariff rate was more than twice the MFN rate; and (4) the product was not subject to "high" transport costs. The results of this market share approach were then augmented by a rough evaluation of the first substitution effect—substitution of communist country products for domestically produced products—for those products not subjected to the market share approach. These remaining products were assumed not to be candidates for displacing other foreign imports. Their MFN response was calculated using elasticity estimates for five major product groups.<sup>12</sup>

Wolf's market shares approach bears a strong relationship to the approach used in the present paper. To put it very simply, he supposes that, subject to meeting provisos (1)–(4) above, the communist product market share in the United States under MFN will be given by:

$$(2.1) \frac{\text{Communist country} \rightarrow \text{U.S.}}{\text{World} \rightarrow \text{U.S.}} = \frac{\text{Communist country} \rightarrow \text{Other West}}{\text{World} \rightarrow \text{Other West}}$$

where the arrow signifies direction and value of export flow of a given product. We may rearrange this equation to read:

$$(2.2) \frac{\text{Communist country} \rightarrow \text{U.S.}}{\text{Communist country} \rightarrow \text{Other West}} = \frac{\text{World} \rightarrow \text{U.S.}}{\text{World} \rightarrow \text{Other West}}$$

In other words, if each Western country, the United States included, were to grant the same tariff rates to the communist country as to the world as a whole, and if provisos (1)–(4) above were satisfied by the product in question, then the distribution of the Eastern export between the United States and the other Western countries would be the same as the distribution between these two regions of exports of this product from the world in total. The explicit modifying con-

<sup>11</sup> The market shares approach in fact incorporates the first effect as well, namely substitution of lower cost imports for domestic goods.

<sup>12</sup> The market share approach accounted for 86.8 percent of the total MFN-induced rise in U.S. imports estimated by Wolf. This large percentage of the rise was attributable to only those 10 SITC 2-digit groups (of the total 56) that passed his four stringent provisos. If he had relaxed his criteria for applying the market share technique (as, we shall see, Elias and Searing did), the elasticity approach would have dwindled away, and his total estimate would have been a good bit larger. It should be noted that the remaining 13.2 percent of the total rise accounted for by the direct elasticity approach was spread out in exceedingly small quantities over the remaining 46 product groups. If the size of these predictions of domestic product displacement are an indication of the portion of the market share approach predictions that might be attributable to displacement of domestic (rather than other foreign) products in the U.S. market, then domestic producers on the whole would have little cause for alarm.

ditions (provisos (1)-(4)) pertain chiefly to supply availability of communist country product and acceptibility of the product in the West; a sufficiently significant U.S. discriminatory tariff to suggest that a change in share is likely to follow its removal; and a transport cost factor. Equation (2.2), plus qualitatively similar but econometrically specified modifying factors, form the foundation of the model used in the present paper.<sup>13</sup>

Jelacic's model, like ours and unlike Wolf's, is econometric. Both Jelacic's model and ours apply multivariate regression analysis. Jelacic's model produced the lowest estimates of MFN effect, and ours are also on the low side. But Jelacic did not make use of market shares, and this difference in form is fundamental. Furthermore, his model considered only total imports while ours is highly disaggregated; and his model treats MFN as an "on-off" dummy variable, while ours deals in actual tariff rates.

In a cross-sectional analysis of twelve Western countries' imports from nine communist countries, Jelacic regressed imports against the GNP of the exporting country (a proxy for supply capabilities), GNP of the importing country (representing market size), economic distance between the two countries, and a dummy variable indicating the existence or denial of MFN treatment.

A relationship which links the importing and exporting countries in this fashion, i.e., a relationship dependent only upon the characteristics of the specific exporting and importing countries, does not specify a redistribution of product flows affecting third parties. One could, of course, add such a specification to this model. On the other hand, a market shares approach unavoidably includes such induced readjustments, because market shares must of necessity continue to sum to 100 percent.

Despite the differences of approach, the Jelacic model, and its selection of variables, had a significant input into our treatment of the problem.

<sup>13</sup> Another aspect in which the present study differs from Wolf's is in the degree of disaggregation. Disaggregation in and of itself can significantly affect the results. Consider the following hypothetical example: suppose one wants to predict U.S. imports of SITC 01 from Country X, using Country X shipments of this commodity to Western Europe as the reference market. SITC 01 is subdivided into subgroups 011, 012, and 013. Assume that the shares of Country X in the reference market are as follows:

	West Europe import value	Country X market share 3-digit level
SITC 011:		
World to Western Europe.....	\$20	1/20=0.05
Country X to Western Europe.....	1	
SITC 012:		
World to Western Europe.....	50	1/50=0.02
Country X to Western Europe.....	1	
SITC 013:		
World to Western Europe.....	30	3/30=0.10
Country X to Western Europe.....	3	

At the 2-digit level, the share of Country X in the reference market would be  $(1+1+3)/(20+50+30) = .05$ . If, then, the total dollar value of U.S. imports from the world of SITC 01 were \$100, a model formulated at the 2-digit level would predict that country X would supply \$5 of this total after MFN was granted. But suppose that the U.S. has different preferences for SITC commodities 011, 012, 013 than does West Europe. If, for example, the entire \$100 of U.S. imports from the world of SITC 01 were in category SITC 012, then a model formulated at the 3-digit level would predict U.S. imports of SITC 01 from country X, following the granting of MFN, to be only \$2. At the other extreme, the prediction could rise as high as \$10. The higher the degree of disaggregation, the more specifically tailored the model will be to actual U.S. demand.

See footnote 27 below, for a flagrant example of an aggregation error that the authors of this paper came close to committing.

The Elias and Searing article appeared at about the same time as the Jelacic study. Their attempt to isolate the MFN impact was, like ours and Wolf's, based on a market shares approach. Elias and Searing reasoned that if normalized trade relations were to exist between the United States and the communist countries, then the communist countries would be able to capture the same percentage of the U.S. market as they in fact capture in some analogous reference market that has no discriminatory trade barriers. In fact, this is Wolf's trade shares model again, in slightly altered form. Two reference markets were used: (1) Canada—the basis for their low estimate, and (2) the EEC 6<sup>14</sup> plus the United Kingdom—the basis for the Elias and Searing high estimate. By multiplying the communist share in the reference market by the total imports the United States takes from the world market, they obtained an estimate of "normalized" trade. This figure was then compared to actual trade for the given year, to estimate the trade barrier differential. Finally, in order to separate out the effect of non-tariff barriers, the portion of the differential attributable to discriminatory tariffs alone was taken to be equal to the percentage of U.S. imports from these countries subject to a greater than 5 percent differential between MFN and non-MFN tariff rates.

As a lead into our own model, we will elaborate the Elias and Searing model a bit further. The basic equation for the "high" estimate of their model may be written:<sup>15</sup>

$$(2.3) \quad \frac{[\text{Communist country} \rightarrow \text{U.S.}]_N}{\text{Communist country} \rightarrow \text{W.E.}} \quad [(\text{World-Canada}) \rightarrow \text{U.S.}] \\ = \frac{\text{World} \rightarrow \text{W.E.}}$$

where the arrow is again used to signify the value and direction of trade in a given product. "W.E." signifies seven Western European countries, the EEC original six plus the U.K. Finally, the subscript "N" indicates that "normal" trading conditions are assumed. Eq. (2.3) may be rewritten as:

$$(2.4) \quad \frac{[\text{Communist country} \rightarrow \text{U.S.}]_N}{(\text{World-Canada}) \rightarrow \text{U.S.}} = \frac{\text{Communist country} \rightarrow \text{W.E.}}{\text{World} \rightarrow \text{W.E.}}$$

which in effect states the following:

After subtracting out its imports from Canada, the fraction of U.S. imports from the remainder of the world that will originate from a given communist country under "normalized" trade conditions will be equal to the fraction of total "West European" imports from the world of that commodity that derives from that communist country. This is the basic assumption of the "high" version of the Elias-Searing model.

The removal of imports originating in Canada from the United States' total was deemed necessary because, according to Elias and Searing, the Canada-U.S. proximity results in transportation cost savings, long established trading relations, and U.S. ownership of

<sup>14</sup> The EEC original six are Belgium, the Federal Republic of Germany, France, Italy, Luxembourg and the Netherlands.

<sup>15</sup> See Elias and Searing, *op. cit.*, page 612.

numerous Canadian enterprises. But it must be pointed out that some of these arguments may be called forth to explain the relatively high share of East European products in the total imports of, say, the Federal Republic of Germany. The proximity of Western to Eastern Europe in itself should, by this line of reasoning, enhance the share of East European socialist country products in West European imports relative to their shares in U.S. imports. This effect is roughly captured by Elias and Searing by applying the equal share rule only to the non-Canadian fraction of total U.S. imports. The present paper, however, proposes, among other things, a more specific approach to accommodation of the effects of distance.

A rearrangement and modification of Eq. (2.4), that includes relative distances in a more systematic way, is:

$$(2.5) \frac{[\text{Communist country} \rightarrow \text{U.S.}]_N}{\text{Communist country} \rightarrow \text{W.E.}} = \frac{\text{World} \rightarrow \text{U.S.}}{\text{World} \rightarrow \text{W.E.}} \left[ \frac{\text{Distance (Communist country, U.S.)}^a}{\text{Distance (Communist country, W.F.)}} \right]$$

That is to say, given "normalized" trading conditions, the relative distribution of socialist country exports of a given product between any two importing areas, compared to the relative distribution of total world exports of these products, will be a function of the relative distances between the socialist country and the two areas. (The exponent attached to the distance term allows the relationship to be different from simple proportionality.)

Eq. (2.5) would be the model used in the present paper provided U.S. tariff and non-tariff barriers to trade with the communist country did not exist.<sup>16</sup> The model actually used adds further terms to the right-hand-side of Eq. (2.5), accounting for actual tariff differentials and non-tariff barriers. The left-hand-side of Eq. (2.5) is thereby converted into an actual, rather than a "normalized", ratio, and the parameters of the equation can be estimated by multivariate regression techniques. The model is explained more fully in the following section.

### 3. ESTIMATION OF MFN IMPACT

#### A. The Model

The model we have chosen to use estimates the share that will be imported by each Industrialized Western (I.W.)<sup>17</sup> country out of the sum total of exports to the Industrialized West of a given product from a given communist country. The share of each I.W. country is assumed to depend upon (1) its share in world exports of that product to the I.W. as a whole, (2) the tariff rate raised by the particular I.W. country against the given product from the given communist country, (3) the existence or absence of quantitative restrictions (QRs) on that product specifically directed against the given communist country, and (4) the distance between the I.W. country and the communist country.

<sup>16</sup> The model used in this paper also substitutes the "Industrialized West" (see footnote 4 above) for "W.E." in Eq. (2-5).

<sup>17</sup> See footnote 4.

We have avoided making any estimate of a possible increase in total communist country supply to the I.W. as a whole, consequent upon the lowering of tariffs by any one I.W. country. This has probably biased our estimates downward. If one looks beyond the mid-1970s, then there is reason to believe that supply will become more elastic, particularly as mounting hard currency deficits force the CMEA countries to export more to creditor nations. It is likely that those export sectors that are most profitable for sales in the West will be preferentially developed. However, we believe that because of plan and bureaucratic rigidities the supply response will be slow.

Our model, at any rate, addresses itself only to the redistributational effects following a change in tariff rate.

Four forms of the relationship between I.W. shares and the independent variables were tested, two linear and two log linear. The theoretically preferred form of each pair imposed a coefficient of unity upon the share from the world,<sup>18</sup> and in most cases it was this form that gave the most statistically satisfactory results. In almost every case in which the coefficient of the world share was not precisely unity, it was close to that value.

Our estimating equations were:

$$(3.1) \quad CS_{ij,p} = A_0 + A_1 WS_{i,p} + A_2 Dist_{ij} + A_3(1+t_{ij,p}) + A_4 QR_{ij,p}$$

$$(3.2) \quad CS_{ij,p} - WS_{i,p} = A_0 + A_2 Dist_{ij} + A_3(1+t_{ij,p}) + A_4 QR_{ij,p}$$

$$(3.3) \quad \text{Ln } CS_{ij,p} = A_0 + A_1 \text{Ln } WS_{i,p} + A_2 \text{Ln } Dist_{ij} + A_3 \text{Ln } (1+t_{ij,p}) + A_4 \text{Ln } QR_{ij,p}$$

$$(3.4) \quad \text{Ln } CS_{ij,p} - \text{Ln } WS_{i,p} = A_0 + A_2 \text{Ln } Dist_{ij} + A_3 \text{Ln } (1+t_{ij,p}) + A_4 \text{Ln } QR_{ij,p}$$

where

$CS_{ij,p}$  = Share of I.W. country  $i$  in exports by Communist country  $j$  of product  $p$  to the I.W. as a whole;

$WS_{i,p}$  = Share of I.W. country  $i$  in world exports of product  $p$  to the I.W. as a whole;

<sup>18</sup> We may assume that the share of Western country  $i$  in the exports of product  $p$  to the I.W. as a whole, coming from any other country or region, depends upon two types of factors: (1) factors that depend only upon characteristics within the importing countries (country  $i$  and the other I.W. countries) and not upon any characteristics of the exporting country or region; and (2) factors that relate to the exporting country or region or to relationships between exporter and importer. We have explicitly identified distance between exporter and importer, and tariffs and QRs raised against the export product by the importer as factors of the second type. If these were to exhaust the possible factors of type 2 (either directly or as proxies), then factors such as relative demand for product  $p$  by country  $i$ , compared with the I.W. as a whole, independent of the source of the product, would still need to be factored in.

Suppose the two types of factors are additive (we could equally well have assumed a multiplicative relationship). Then

$$\frac{\text{Country } j \rightarrow \text{Country } i}{\text{Country } j \rightarrow \text{I.W.}} \equiv CS_{ij,p} = f_1(\text{relative demand}_{i,IW,p}, \dots) + f_2(\text{distance}_{ij}, \text{tariff}_{ij,p}, QR_{ij,p});$$

and

$$\frac{\text{World} \rightarrow \text{Country } i}{\text{World} \rightarrow \text{I.W.}} \equiv WS_{i,p} = f_1(\text{relative demand}_{i,IW,p}, \dots) + f_2(\text{distance}_{iW}, \text{tariff}_{iW,p}, QR_{iW,p}).$$

Rearrangement of the second equation and substitution into the first yields

$$CS_{ij,p} = WS_{i,p} + f_2(\text{distance}_{ij}, \text{tariff}_{ij,p}, QR_{ij,p}) - f_2(\text{distance}_{iW}, \text{tariff}_{iW,p}, QR_{iW,p}).$$

- Dist<sub>*ij*</sub> = air distance between the capitals of countries *i* and *j*;  
 $t_{i,p}$  = ad valorem equivalent tariff rate (expressed as a fraction) imposed by I.W. country *i* on product *p* of Communist country *j*.  
 $QR_{i,p}$  = a dummy variable expressing the existence or absence of any type of quantitative restriction<sup>19</sup> on product *p* imposed by I.W. country *i* specifically against Communist country *j*.

It is most important to note that we have not included in these equations a built-in mathematical condition that causes the predicted shares to sum to 100 percent after the coefficients have been estimated or the values of the independent variables altered.<sup>20</sup> In every case, it is the relative values of  $CS_{i,p}$  that are provided directly by the equations, and a change in any variable for any one I.W. country necessitates the recalculation of relative shares for all 14 I.W. countries, so that the sum of the recalculated shares (which may add up to less or more than 100 percent) may be used to normalize the total to 100 percent again.

The interpretation of Eqs. (3.1) and (3.3) differs somewhat from that of Eqs. (3.2) and (3.4). The equations which constrain the coefficient of the world share to unity predict that if all tariffs and QRs were identical in all of the I.W. countries, then the (linear or ratio) differentials between world shares and communist country shares would be a function of distance alone. But where the coefficient  $A_1$  is different from unity, the world shares may be taken to represent relative strength of demand (or market size) in the different I.W. countries; it would then be quite reasonable to find that their contributions to the relative shares from the communist countries have a higher or lower weight than unity.

A few words must be said about the concept of "distance". Distance is a proxy for freight charges, but it is also a measure, albeit imperfect,

<sup>19</sup> The use of a 2-valued dummy variable leaves a great deal to be desired. It does not distinguish between the various types of QRs nor does it determine how stringently each QR is being applied. QRs may comprise complete prohibition, country-specific quotas, global quotas, seasonal restrictions, discretionary licensing, monopsonistic trading arrangements, etc. Nevertheless, it was deemed better to enter some QR variable into the model, rather than to allow its total effect to be blended in an ill defined way with the effects on trade flows of the remaining variables. However, none of the equations of appendix B contains QR terms.

Our sources for information on QRs in effect in 1974 and 1975 were:

(1) *Official Journal of the European Communities* Vol. 17 No. L 358 (31 December 1974).

(2) Materials reported by the Joint Working Group on Import Restrictions in the GATT document COM.IND/W/117-COM.A.G/W/94 (30 December 1975).

(3) Additional collated material provided by personnel in the Bureau of East-West Trade.

<sup>20</sup> A linear regression, which is what we employ in this article, preserves the sum of the dependent variables. In the case of Eq. (3.1), this means that

$$1 = \sum_i^N CS_{i,p} = \sum_i^N \widehat{CS}_{i,p} = NA_0 + A_1 \sum_i^N WS_{i,p} + \dots + A_2 \sum_i^N (1+t_{i,p}) + A_4 \sum_j^N QR_{i,j,p}$$

where a variable with a hat signifies an estimated variable. But if any one of the tariff rates were to alter, the right hand side would no longer sum to unity. If we were to use a tariff variable represented by

$$\frac{N}{(1+t_{i,p}) \sum_i^N (1+t_{i,p})}$$

in place of the tariff variable of Eq. (3.1), then the denominator of the variable would alter whenever any of the tariff rates were changed and the revised estimates of the dependent variables would continue to sum to unity. There would then be no need to calculate the shares of all the other I.W. countries in order to properly scale the newly estimated U.S. share (with the MFN tariff rate). Furthermore, the equation for any other I.W. country would also immediately reflect the change in share of this other country consequent upon a change in U.S. tariff rate. The same argument would hold for Eq. (3.2).

However—although we did not give the matter intensive thought—we could not perceive a modification of Eqs. (3.3) and (3.4) that would similarly preserve the sum of shares. The dependent variables are in these cases logarithms of shares: the linear regression technique, while preserving the sum of the logarithms of the shares, thereby alters the sum of the shares themselves.

We therefore routinely recalculated all equations and scaled the sums to unity.

of a number of important intangibles. Proximity is a determinant of political and cultural relations, of long acquaintance and historical traditions. It is an ingredient in the formation of informal business ties, and easy access for information, negotiation, and post-contract servicing. For all of these reasons, we feel that freight distance is not necessarily the most significant type of distance.

### B. The Estimating Procedure

For each product and for each Eastern European Communist country (including Poland and the U.S.S.R.), actual data for each of the 14 I.W. countries (including the United States) for the year 1974 was entered into variant forms of the estimating equations.<sup>21</sup> Although 1975 data was available, 1974 was selected for two reasons. In the first place, 1975 was a year of marked decline in the rate of increase of total I.W. imports from the communist countries, a reflection of the 1974-1975 recession in the West. The actual values of the relative shares,  $CS_{i,p}$ , fluctuated noticeably between 1973 and 1975, while the relative shares from the world,  $WS_{i,p}$ , remained fairly stable. To smooth the fluctuations in the shares of the communist country exports, we used 3-year (1973-1975) averages for their values.

Second, the only available I.W.-wide set of ad valorem equivalent tariff rates concurred to our 5-digit SITC data had been calculated using 1972 world trade figures as conversion weights (conversion from specific tariffs to ad valorem equivalents, where necessary, and conversion from individual country product classes to Brussels Tariff Nomenclature groupings). Given time and other input constraints, we could neither update the weighting nor convert it to communist country trade rather than world trade weights.<sup>22</sup> At any rate, the basic 1972 rates were generally applicable in 1974,<sup>23</sup> and relative weights within each B.T.N. classification had probably changed little, for most relevant product categories, by 1974.

For each product, the 14 sets of data were run through Eqs (3.1)-(3.4) plus variants of these four equations that omitted one or more of the independent variables. The criteria for acceptance of the results were conformity of coefficients to expected signs and t-tests at the 0.1 or better level of significance. Beyond that, if several variants met both tests, selection was made on the basis of the number of variables included in the model, the theoretical structure of the variant (equations of type (3.2) or (3.4) were preferred), and the value of  $\bar{R}^2$ , in roughly that order. In a few instances, marginally acceptable equations were admitted.<sup>24</sup>

<sup>21</sup> In addition to Eqs. (3.1)-(3.4), various deletions of the explanatory variables were also tested; many of the combinations did not prove to have all of the estimated coefficients significant at the 10 percent level.

<sup>22</sup> Actually, world trade weights may be preferable to communist country trade weights for an I.W. country whose imports from the communist country are distorted by lack of MFN. Among other things, tariff averages based on imports from the world will include products that may come from the communist country once MFN is granted, but have been completely excluded without MFN.

<sup>23</sup> The 1972 ad valorem equivalent tariffs for the I.W. countries were obtained from the GATT Tariff Study tapes. The 1972 tariffs were revised to account for the tariff relations within EEC, within EFTA, and between EEC and EFTA. For example, the average tariff that an EEC member country placed on a given 4- or 5-digit product that it imported from the world was decomposed into the weighted sum of imports at zero rates from the other EEC countries, the applicable rates for 1974 for imports from EFTA countries, and the higher than average rates (the "MFN" rates) paid by the rest of the world, including the communist countries.

<sup>24</sup> All of the equations used in this study are displayed in Appendix B, with their statistical characteristics.

The product sample used in our analysis covers the top 50 exports of each Eastern European communist country to the I.W. as a whole, as ranked by value in 1975. Obviously, this selection procedure excludes a large number of goods from consideration. However, any cut-off point short of complete enumeration is arbitrary. We believe that a sample consisting of the top 50 products is large enough to strike a judicious balance between breadth of coverage and manageability of research proportions. On a dollar value basis, the top 50 items constituted between 60 and 88 percent of the exports of each CMEA country to the I.W. in 1975.<sup>25</sup>

From this initial sample, we weeded out those commodities for which the difference between the U.S. discriminatory and MFN tariff rates did not exceed 5 percent,<sup>26</sup> those which were not included in the U.S. tariff nomenclature at all (ships other than pleasure craft, and made-up canvas goods), and those for which the U.S. share of the world's exports to all of the I.W. was zero (whalemeat)<sup>27</sup> or less than 0.05 percent (sunflower seed oil) in 1974 and 1975.

Once the most acceptable estimating equation and its coefficients were derived for each product and each communist country, the U.S. MFN tariff value (or, in the case of Poland, the discriminatory value), along with the other relevant U.S. data, was inserted into the equation. All I.W. shares had to again be revised so that the total would sum to 100 percent; the new predicted U.S. share minus the old was then the predicted change in share. For the years 1974 and 1975 this change in share was multiplied by actual total I.W. imports of the product, to arrive at our estimate of the MFN-induced increase (or, for Poland, decrease following a hypothesized absence of MFN) of U.S. imports of the product from the particular communist country.

To arrive at the final MFN estimate, the sum of the top 50 sample product results had to be extended to the entire set of imports. Clearly there were items below the top 50 which were tariff sensitive despite their omission from the sample tested. To compensate, we scaled up the sample results, multiplying by the following ratio:

$$\frac{\text{value of total imports from communist country by U.S.}}{\text{value of I.W. top 50 items imported from communist country by U.S.}}$$

This procedure assumed that the distribution of tariff sensitive items among the remaining products was the same as that for the sample products. In most cases, the total value of the sample products imported by the U.S. was in excess of 70 percent of the value of total imports, so that the bulk of the product value had in fact been tested. The total values tested, and total imports, are provided in Tables 3 through 9 of Section 4.

<sup>25</sup> For complete listings of the 1975 top 50 exports to the I.W. by each communist country, see the article by Lenz and Kravalis elsewhere in this volume.

<sup>26</sup> The ad valorem equivalents of U.S. MFN (column 1) and non-MFN (column 2) tariff rates used in this study are provided in Appendix A.

<sup>27</sup> SITC 01189 comprises "Meat and Edible Offals, not elsewhere specified." It occurs among the U.S.S.R. top 50 exports to the I.W. in 1975. Furthermore, the United States imports substantial quantities of products that fall into this category. Our model, mechanically applied, predicted increases of about \$1.5 million in U.S. imports of SITC 01189 from the U.S.S.R. in 1974 and 1975 had MFN been in effect.

On closer examination, it turned out that almost the entire amount of I.W. imports of SITC 01189 from the U.S.S.R. is whale meat. In 1972 the U.S. Congress passed the Marine Mammals Protection Act which, *inter alia*, forbids the importation of whale meat or any other parts of whales into the United States. We scratched our prediction.

## 4. THE PREDICTED MFN IMPACT

Table 1 shows the predicted changes in U.S. imports from each of the seven Eastern European CMEA countries under non-MFN and MFN conditions.

TABLE 1.—U.S. IMPORTS FROM EASTERN EUROPEAN CMEA COUNTRIES AND THE U.S.S.R. UNDER MFN AND NON-MFN CONDITIONS

[Dollar amounts in thousands]

	1974			1975		
	Actual	Estimated MFN increase	Percent rise	Actual	Estimated MFN increase	Percent rise
Bulgaria.....	\$8,399	\$11,602	138.1	\$20,217	\$9,128	45.1
Czechoslovakia.....	45,562	33,039	72.5	34,629	59,535	171.9
German Democratic Republic.....	14,129	39,081	276.6	11,250	27,439	243.9
Hungary.....	75,407	32,387	42.9	34,652	29,276	84.5
Romania.....	130,516	34,211	26.2	132,956	38,729	29.1
U.S.S.R.....	349,518	31,832	9.1	254,199	18,989	7.5
Total.....	623,531	182,152	29.2	487,903	183,096	37.5
	Actual	Non-MFN decrease	Percent fall	Actual	Non-MFN decrease	Percent fall
Poland.....	\$265,931	\$7,271	2.7	\$243,079	\$5,246	2.2

<sup>1</sup> Calculated on the assumption that the extraordinary \$50,600,000 gold coin imports of 1974 would not have been increased by MFN (metal coins are duty-free, with or without MFN).

<sup>2</sup> Part of the estimated increase may already be incorporated in the actual 1975 imports from Romania, since MFN was in effect as of Aug. 3, 1975. The percent rise would thus be greater (the same increase divided by a smaller base). Judging, however, from table 8 the granting of MFN does not appear to have had much impact during 1975 on those items among the 1975 I.W. top 50 that were judged to be MFN-sensitive.

<sup>3</sup> Because of the granting of MFN to Romania in 1975, part of this increase may already be included in total actual imports, and may therefore represent a slightly higher percent rise. See footnote 2.

In 1974 the United States imported \$889.5 million worth of goods from these seven countries. Of this total, \$265.9 million came from Poland, which had long been receiving most favored nation tariff treatment. If the other six countries had also been receiving MFN tariff treatment from the United States for some years, the 1974 imports from these six, according to the methodology of this paper, would have been larger than the actual value of imports from the six by \$182.2 million. This represents a 29.2 percent increment in imports from the six affected countries.<sup>28</sup>

In 1975, U.S. imports from the seven countries dropped to \$731.0 million, despite the fact that Romania was granted MFN status as of August 3 of that year. Overall, the impact of the U.S. recession overshadowed the MFN action; imports from Romania scarcely rose (from \$130.5 million in 1974 to \$133.0 million in 1975).

Had MFN been in effect for all the Eastern CMEA countries for the entire year 1975, our model predicts that U.S. imports from these countries would have been higher by a total of \$183.1 million, a rise of 37.5 percent of actual 1975 imports from the six countries affected by the granting of MFN.<sup>29</sup>

<sup>28</sup> It is quite likely that most of the predicted rises represent displacement of imports from other foreign countries rather than either displacement of domestically produced goods or an absolute increase in U.S. imports. See footnote 12, above for a discussion of Wolf's investigation of this question.

<sup>29</sup> The percentage rise is probably exaggerated because part of the increase predicted for Romania may have already been incorporated into the 1975 imports from Romania.

On the other side of the coin, our calculations indicate that U.S. imports of Polish goods in 1974 were \$7.3 million higher than they would have been had Poland not been receiving MFN treatment. In 1975, the differential was \$5.2 million. These values represent only 2.7 percent and 2.2 percent, respectively, of actual U.S. imports from Poland in 1974 and 1975.<sup>30</sup>

When considering these results, it should be kept in mind that the granting of MFN to these countries may possibly induce increased U.S. export sales to these countries as well as increased imports. Even without U.S. export increases, however, the 1974 and 1975 U.S. export surpluses in trade with the U.S.S.R. would still have been large; we would have run very small surpluses or deficits in total in trade with the other five countries, but if Poland is included, in the aggregate the U.S. surplus with East Europe (without the U.S.S.R.) would have remained large. The figures are provided in Table 2.

TABLE 2.—U.S. IMPORTS, EXPORTS, AND SURPLUSES UNDER MFN, 1974 AND 1975

[In millions of dollars]

	1974			1975		
	Predicted imports under MFN	Actual U.S. exports <sup>1</sup>	Predicted U.S. surplus	Predicted imports under MFN	Actual U.S. exports <sup>1</sup>	Predicted U.S. surplus
6 non-MFN countries.....	805.7	1,032.1	+226.4	* 671.0	2,197.4	+1,526.4
U.S.S.R.....	381.4	607.4	+226.0	273.2	1,832.7	+1,559.5
5 non-MFN countries (6 minus U.S.S.R.).....	424.3	424.7	+ .4	* 397.8	364.7	-33.1
5, plus Poland (actual).....	690.3	819.3	+129.0	640.9	944.8	+303.9

<sup>1</sup> Assumes no increase in purchases from the United States by the Eastern countries in response to the granting of MFN.

<sup>2</sup> Assumes that none of the predicted Romanian increase was already incorporated into actual 1975 U.S. imports from Romania. To the extent that MFN already had an impact, these figures would be smaller.

The discussion below elaborates the item by item details for each of the seven countries.

### Bulgaria

The 50 largest dollar value Bulgarian exports to the I.W. cluster into the following groups: food, wine, tobacco and other plant products (26 items); semi-fabricated ferrous metal products and steel scrap (5 items); nonferrous metals (5 items); clothing (5 items); non-electric machinery (3 items); electrical machinery and equipment (2 items); and chemicals (3 items). The remaining item in the top 50 is distillate fuel.

Of the 50 items, 39 bear a U.S. non-MFN tariff differential greater than 5 percent, indicating the possibility of a significant change in U.S. imports due to granting MFN. Of these, one (sunflower seed oil) is not imported in significant amounts by the United States. Of the remaining 38 items, 16 yielded equations with tariff term coefficients statistically significant at the 10 percent level or better. The 16 items are shown in Table 3.

<sup>30</sup> See footnote 6.

TABLE 3.—U.S. IMPORTS FROM BULGARIA, 1974 AND 1975: ACTUAL IMPORTS AND ESTIMATED MFN-INDUCED INCREASES

[In thousands of dollars]

SITC	Description	1974		1975	
		Actual	MFN increase	Actual	MFN increase
0541	Potatoes .....	0	0	0	0
0544	Tomatoes 1 .....	0	423	0	455
0551	Dehydrated vegetables .....	21	143	14	110
05551	Pickled vegetables and fruit .....	0	411	0	625
05552	Canned vegetables .....	67	3,909	0	3,474
2218	Oilseeds and nuts .....	0	217	0	71
67411	Iron, steel heavy plates, sheets (not high carbon or alloy) .....	0	890	0	478
6861	Zinc and zinc alloys, unwrought .....	0	1,298	0	485
7151	Metalworking machine tools .....	111	208	69	351
71931	Lifting, loading machinery .....	0	173	0	167
71932	Forklift and other in-plant trucks .....	52	561	0	944
7221	Electric power machinery and equipment .....	0	239	1	164
84112	Women's, children's outer garments, not knit .....	0	0	0	0
84113	Men's, boy's, undergarments, not knit .....	0	1,053	0	714
84144	Knit outer garments .....	0	1,183	0	766
84201	Articles of furskin .....	0	0	0	0
Subtotal for MFN-sensitive items among 1975 I. W. top 50 .....		251	10,708	84	8,804
Subtotal for all 1975 I.W. top 50 .....		7,752	10,708	19,500	8,804
Total U.S. imports from Bulgaria .....		8,399	11,602	20,217	9,128
Estimated percent increase with MFN .....		138.1 .....		45.1	

<sup>1</sup> The predicted increase in U.S. imports of tomatoes from Bulgaria is probably not reliable. Several MFN tariff rates are applicable to tomatoes depending upon the season, with the lowest rates applying during the winter. Since we uniformly took column 1 (MFN) rates to be the average rate applied to imports from the world, and since U.S. tomato imports derive almost entirely from Mexico, we have very likely applied an MFN rate 40 percent too low. Alternative column 1 rates are not usual, and we do not think that this particular problem arose in other cases.

It should not necessarily be expected that the greatest impact of MFN would fall upon those commodities with the greatest differences between the non-MFN and MFN tariff values. Differing elasticities of response to changing prices, as well as other factors discussed earlier, also affect the total impact. However, in the Bulgarian case the predicted effect of MFN roughly follows the size of the tariff differences.

As a group, the highest tariff differentials occur for the clothing items, with differences of about 35 to 40 percentage points between the ad valorem equivalent tariffs for column 1 (MFN) and column 2 (non-MFN). Four of the five clothing items turned out to be tariff-sensitive at acceptable levels of significance (although the predicted incremental imports for two of the four categories were less than \$500).

The machinery group, with tariff differentials of about 25 to 30 percentage points, contributed four tariff-sensitive items.

Tariff rate differentials for almost all of the other items among the top 50 ranged between 0 and 15 percentage points, with the exception of several agricultural products. Three of the six agricultural items that were sensitive to tariff change (processed food items) had tariff differentials between 24 and 34 percentage points; the one with the highest spread—canned vegetables—contributed about 40 percent of the total predicted MFN-induced increase in imports from among the products tested (the top 50 Bulgarian exports to the I.W.).

The remaining items among the I.W. top 50 for which MFN increases are predicted are iron and steel (except high carbon or alloy) plates and sheets, and unwrought zinc.

## Czechoslovakia

Czechoslovak exports to the West are much more diverse than Bulgarian exports. Nine items fall into the semi-manufactured ferrous metal products category, six into clothing (including footwear), six into coal and petroleum products, four each into food products and wood products, and successively smaller numbers of items are found in the fabrics, refractories, chemicals, electric and non-electric machinery, motor vehicles, furniture, glassware, rubber tire, aluminum, travel bags and printed matter categories.

Of the 50 top items, the U.S. tariff differential exceeds 5 percent for 35, and 13 of these yielded equations with tariff term coefficients significant at the 10 percent level or better. See Table 4 for an itemization.

TABLE 4.—U.S. IMPORTS FROM CZECHOSLOVAKIA, 1974 AND 1975: ACTUAL IMPORTS AND ESTIMATED MFN-INDUCED INCREASES

[In thousands of dollars]

SITC	Description	1974		1975	
		Actual	MFN increase	Actual	MFN increase
05484	Hops.....	341	2,320	413	2,603
27624	Magnesite.....	0	555	0	803
6715	Ferroalloys (except ferromanganese).....	0	2,015	0	4,211
67321	Iron, steel bars, rods (not high carbon or alloy).....	35	1,961	0	852
67411	Iron, steel heavy plates (not high carbon or alloy).....	47	5,124	6	7,461
67431	Iron, steel thin plates, sheets (not high carbon or alloy).....		1,533		1,664
7221	Electric power machinery and equipment.....	8	28	7	28
73291	Motorcycles.....	2,671	1,823	1,257	1,656
81241	Illuminating glassware.....	582	983	478	693
8310	Travel goods, handbags.....	30	1,116	29	981
84112	Women's, children's outer garments, not knit.....	0	1,017	35	1,480
84143	Knit undergarments.....	268	1,227	44	1,644
84144	Knit outer garments.....	68	1,742	0	987
Subtotal for MFN-sensitive items among 1975 I.W. top 50.....		4,050	21,444	2,269	25,063
Subtotal for all 1975 I.W. top 50.....		29,572	21,444	14,578	25,063
Total U.S. imports from Czechoslovakia.....		45,562	33,039	34,629	59,535
Estimated percent increase with MFN.....		72.5		171.9	

Among the top 50, illuminating glassware incurs the highest U.S. tariff differential (50.2 percentage points), and this item is among the tariff-sensitive, although not with the greatest increment, either in absolute value or percentage-wise.

The next highest U.S. tariff differentials occur in the clothing category (about 35 to 40 percentage point differentials). Three of the six clothing items gave evidence of substantial MFN-induced increases.

The very largest MFN-induced increases, however, are predicted for the ferrous semi-manufactures. Although their tariff percentage spreads are only 6 to 15, four of these items account for more than half of the total predicted MFN-induced increase for the I.W. top 50 items, in each of the two years.

The other items of Table 4 show tariff differentials ranging from 6 to 28 percentage points, while a few items with large percentage spreads (e.g., glass tableware and furniture, with differentials of about 36 points) do not show up for increased Czechoslovak sales to the U.S.

## G.D.R.

The G.D.R. exports to the West somewhat resemble those of Czechoslovakia. Here, however, machinery predominates, with 4 items each in the non-electric and electric machinery categories. There are 7 agricultural items, 4 semi-manufactured ferrous metal products, 4 chemical products plus synthetic rubber, 4 items in the coal and petroleum products category, 3 each in the glass and ceramics category, wood products, and toys and decorations, and 2 furniture items. Finally, there are furskins, regenerated fibers, tires, knit fabrics, refined silver, railroad locomotive parts, ships and boats, travel bags, cameras, pianos, and printed matter.

It must be noted that "the West", in the case of our G.D.R. statistics, does not include the Federal Republic of Germany (F.R.G.) which in actuality imports roughly half of the G.D.R.'s exports to the total I.W. The F.R.G. does not report trade with the G.D.R. as foreign trade, and the required data were not easily available.

The U.S. tariff differential exceeds 5 percent for 34 items of the top 50, and of these, 17 produced equations with tariff terms acceptable at the 10 percent or better level of significance. The results are shown in Table 5.

TABLE 5.—U.S. IMPORTS FROM THE GERMAN DEMOCRATIC REPUBLIC, 1974 AND 1975: ACTUAL IMPORTS AND ESTIMATED MFN-INDUCED INCREASES

[In thousands of dollars]

SITC	Description	1974		1975	
		Actual	MFN increase	Actual	MFN increase
2218	Oilseeds and nuts.....	0	227	0	210
2312	Synthetic rubber.....	0	32	0	34
6291	Rubber tires.....	21	0	44	0
6537	Knit fabric.....	0	0	0	0
6664	Porcelain, china housewares.....	100	858	258	1,042
6666	Porcelain, china ornaments.....	213	294	263	327
71931	Lifting, loading machinery.....	0	519	0	594
71992	Taps, cocks, valves.....	0	0	0	0
7221	Electric power machinery and equipment.....	1	0	8	0
82101	Chairs and parts.....	103	739	30	1,127
82109	Other furniture and parts.....	25	2,723	2	3,808
8310	Travel goods, handbags.....	23	889	2	1,238
8614	Cameras (excluding movie).....	639	2,536	1,065	2,699
89141	Pianos, harps.....	15	1,467	15	1,574
89422	Dolls.....	33	930	27	1,037
89423	Other toys.....	90	1,548	147	1,484
89425	Xmas decorations.....	2	595	16	570
Subtotal for MFN-sensitive items among 1975 IW top 50.....		1,265	13,357	1,877	15,744
Subtotal for all 1975 IW top 50.....		4,829	13,357	6,455	15,744
Total U.S. imports from German Democratic Republic.....		14,129	39,081	11,250	27,439
Estimated percent increase with MFN.....			276.6		243.9

Of the 17 items, all except oilseeds and synthetic rubber are manufactured goods in SITC 6-8, and all of these, except for rubber tires (with U.S. tariff differentials of 6 percentage points) and cameras (15 percentage point spread), have tariff differentials exceeding 24 percentage points. Furniture items, toys, and cameras show the largest predicted MFN-induced increases in U.S. imports from the G.D.R.

The predicted percentage rise in U.S. imports is larger for the G.D.R. than for any of the other countries. The absolute values of

the predicted MFN induced increases were comparable to those for the other CMEA countries; but the actual U.S. imports from the G.D.R. were lower than the imports from any of the others except Bulgaria. Considering the size and advanced degree of industrial development of the G.D.R., it seems likely that the current low values of U.S. imports are due largely to the underdeveloped state of U.S.-G.D.R. political and commercial relations. The effect upon imports attributed by our model to the granting of MFN probably includes some of the impact of normalizing trade channels, quite apart from tariffs and quantitative restrictions.

To a lesser degree, these comments apply as well to the results obtained for Czechoslovakia.

### Hungary

Twenty-two of the top 50 Hungarian exports to the West are in the agricultural category, 8 are in clothing, and 5 in ferrous metal semi-manufactures. These numbers are similar to those for Bulgarian exports. There are in addition 3 chemical items, 3 electrical machinery items, and 3 wood product items. Two fabric items plus aluminum, chairs, feathers, and metal-working machine tools complete the list.

Of the top 50, 41 have U.S. tariff differentials greater than 5 percent, but one of these is not imported in substantial quantity by the U.S. (sunflower seed oil)<sup>1</sup>. Of the remaining 40 items, 14 proved to be MFN-sensitive. (See Table 6.)

TABLE 6.—U.S. IMPORTS FROM HUNGARY, 1974 AND 1975: ACTUAL IMPORTS AND ESTIMATED MFN-INDUCED INCREASES

[In thousands of dollars]

SITC Description	1974		1975	
	Actual	MFN increase	Actual	MFN increase
2218 Oilseeds and nuts.....	0	426	0	698
29196 Bird's feathers.....	20	440	29	513
51365 Aluminum oxide.....	0	2,676	0	3,332
65691 Linens, textile furnishings.....	1	59	0	32
7221 Electric power machinery and equipment.....	0	0	0	0
72501 Electric refrigerators.....	0	264	0	404
7292 Electric light bulbs.....	2,944	1,764	1,741	1,905
82101 Chairs and parts.....	115	855	63	934
84112 Women's, children's outer garments, not knit.....	158	4,384	121	4,948
84113 Men's, boy's under garments, not knit.....	0	1,158	0	887
8413 Leather apparel.....	130	2,079	133	1,906
84143 Knit undergarments.....	12	1,342	0	1,665
84144 Knit outer garments.....	123	5,028	91	3,551
84201 Articles of furskin.....	2	186	1	105
Subtotal for MFN-sensitive items among 1975 IW top 50.....	3,505	20,661	2,179	20,880
Subtotal for all 1975 IW top 50.....	15,821	20,661	24,714	20,880
Total U.S. imports from Hungary.....	175,407	32,387	34,652	29,276
Estimated percent increase with MFN.....		42.9 (130.6) <sup>1</sup>		84.5

<sup>1</sup> The extraordinary \$50,600,000 of gold coins imported in 1974 incurred no duty and would not have been affected by MFN. The estimated percent increase noted in parentheses is the percent rise over the 1974 imports exclusive of the gold coins.

Surprisingly, considering that almost half of the Hungarian top 50 exports to the West are agricultural, only one such product (oilseeds) was among these 14. Instead, close to half of the items fall into the clothing category, covering a wide range of under- and outerwear,

including articles of furskins. Clothing items, on the whole, have the highest differentials between MFN and non-MFN tariff rates.

With tariff differentials of 14-15 percentage points, electric light bulbs and alumina are relatively high in predicted import increases under MFN, while chairs, household linens, refrigerators, and electric power machinery, all with differentials of about 30 points, are also MFN sensitive; machinery imports, however, do not rise noticeably above zero. Oilseeds and feathers, with tariff differentials of only 6 percentage points, complete the list.

### Poland

Agricultural products comprise 12 of the 50 top Polish exports to the West, clothing contributes 6 items, 5 items are machinery, 5 are iron and steel products, 4 are in the coal and petroleum category, 4 are chemicals (including synthetic rubber), 3 are lumber products, 3 are nonferrous metals (silver, copper, and zinc), and 2 each are in the furniture and fabrics categories. Ships, sulfur, furskins, and automobiles are the remaining items.

Of the 50 items, 19 have U.S. tariff differentials of less than 5 percentage points. Only 7 of the remaining 31 produced equations with statistically acceptable tariff terms. Three of these are clothing items, two are nonferrous metals (copper and zinc), and the others are metallurgical machinery and synthetic rubber. (See Table 7.)

TABLE 7.—U.S. IMPORTS FROM POLAND, 1974 AND 1975: ACTUAL IMPORTS AND ESTIMATED DECREASES IF MFN HAD NOT BEEN IN EFFECT

(In thousands of dollars)

SITC	Description	1974		1975	
		Actual	non-MFN decreases	Actual	non-MFN decreases
2312	Synthetic rubber.....	0	0	42	42
68212	Refined copper.....	4,163	361	0	0
6861	Zinc and zinc alloys, unwrought.....	10,311	1,499	326	326
71521	Converters, ladles, ingot molds, casting machinery.....	800	126	1,108	152
84111	Men's, boys' outer garments, not knit.....	2,912	562	4,430	850
84112	Women's, children's outer garments, not knit.....	763	763	2,221	2,221
84144	Knit outer garments.....	1,614	1,614	243	243
	Subtotal for MFN-sensitive items among 1975 IW top 50.....	20,563	4,925	8,370	3,834
	Subtotal for all 1975 IW top 50.....	180,134	4,925	177,646	3,834
	Total U.S. imports from Poland.....	265,931	7,271	243,079	5,246
	Estimated percent decrease without MFN.....		2.7		2.2

### Romania

Agricultural products, with 10 items, is the largest single export category among Romania's top 50 exports to the I.W. in 1975. Clothing is next with 8 items, and petroleum products, wood products, and ferrous metal semi-manufactures have 5 items each. There are 4 chemical items, including synthetic rubber, and 2 furniture items. Tractors, motor vehicle parts, ships and boats, metal-working machine tools, electric power machinery, carpets, cotton fabrics, aluminum, unwrought silver, glassware, and basketwork are the remaining items.

Of the top 50, 35 were subject to U.S. tariff differentials greater than 5 percent, but one of these (sunflower seed oil) is not imported

in significant quantity by the U.S. Of the 34 remaining items, 15 provided equations with statistically acceptable tariff term coefficients.

Five clothing items, two furniture items, two items of wood paneling, and basketwork are items of high U.S. tariff differentials that proved to be tariff-sensitive. Three food items, ferrous metal plates and sheets, and aluminum metal, all with tariff differentials between 6 and 12 percentage points, comprise the remaining items. (See Table 8.)

TABLE 8.—U.S. IMPORTS FROM ROMANIA, 1974 AND 1975: ACTUAL IMPORTS AND ESTIMATED MFN-INDUCED INCREASES

[In thousands of dollars]

SITC	Description	1974		1975	
		Actual	MFN increase	Actual	MFN increase <sup>1</sup>
0544	Tomatoes <sup>2</sup> .....	0	621	0	34
0545	Other vegetables.....	0	0	0	0
0616	Honey.....	2	257	2	668
63121	Plywood, veneer, inlaid wood.....	0	688	2	639
63142	Particle board.....	0	36	0	108
67411	Iron, steel heavy plates, sheets (not high carbon or alloy).....	612	5,026	1,914	3,944
6841	Unwrought aluminum.....	167	3,529	0	5,853
82101	Chairs and parts.....	222	3,361	395	3,536
82109	Other furniture and parts.....	1,471	7,176	1,491	8,373
84112	Women's, children's outer garments, not knit.....	1,407	1,680	1,270	2,645
84113	Men's, boy's under garments, not knit.....	750	856	231	612
8413	Leather apparel.....	161	882	208	809
84143	Knit under garments.....	1,642	2,870	973	3,781
84144	Knit outer garments.....	305	3,098	73	2,051
89922	Basketwork.....	145	805	229	1,126
	Subtotal for MFN-sensitive items among 1975 IW top 50.....	6,884	30,885	6,788	34,479
	Subtotal for all 1975 IW top 50.....	117,827	30,885	118,366	34,479
	Total U.S. imports from Romania.....	130,516	34,211	132,956	38,729
	Estimated percent increase with MFN.....		26.2		29.1

<sup>1</sup> Because of the granting of MFN to Romania as of Aug. 3, 1975, part of the estimated increase may already be included in total actual imports, and may therefore represent a slightly higher percent rise.

<sup>2</sup> See footnote to table 3.

### U.S.S.R.

The Soviet top 50 exports to the West are extraordinarily high in natural resources. Ten of the items are coal, coke and petroleum products. Seven items are non-ferrous metals, and 3 more are metallic ores (iron and chrome). Six items are wood or paper products. There are 4 agricultural items, 4 chemical items, 3 items of ferrous metal semi-fabricates and scrap, 3 in the fish and crustacea category, 2 fur-skin items, diamonds, natural phosphates, asbestos, automobiles, tractors, ships and boats, metal-working machine tools, and carpets.

Of the top 50 export items in the Western trade, only 17 are subject to U.S. tariff differentials greater than 5 percent; of these, sunflower seed oil is not imported in significant quantity by the U.S., while whale meat is forbidden by law.<sup>31</sup> Thus, only 15 items are even candidates for increase under MFN status, according to our criteria, and only six of these proved to be tariff sensitive. All six fall into the class of semi-manufactures (SITC 6). These are, roughly in order of decreasing MFN-induced rise, refined copper, unwrought aluminum, plywood and veneer, ferro-alloys, kraft paper and paperboard, and dressed furskins. (See Table 9.)

<sup>31</sup> See footnote 27.

TABLE 9.—U.S. IMPORTS FROM THE U.S.S.R., 1974 AND 1975: ACTUAL IMPORTS AND ESTIMATED MFN-INDUCED INCREASES

[In thousands of dollars]

SITC	Description	1974		1975	
		Actual	MFN increase	Actual	MFN increase
6130	Dressed furskins.....	138	281	66	295
63121	Plywood, veneer, inlaid wood.....	1,267	4,194	1,164	2,607
6413	Kraft paper.....	0	645	0	210
6715	Ferroalloys (excluding ferromanganese).....	1,390	2,762	0	5,938
68212	Refined copper.....	1,763	13,477	24	1,378
6841	Unwrought aluminum.....	14	7,885	90	6,847
Subtotal for MFN-sensitive items among 1975 IW top 50.....		4,572	29,244	1,344	17,275
Subtotal for all 1975 IW top 50.....		321,100	29,244	231,250	17,275
Total U.S. imports from U.S.S.R.....		349,518	31,832	254,199	18,989
Estimated percent increase with MFN.....			9.1		7.5

### Product Comparison

Combining the results of MFN-induced rises in exports to the United States from the six relevant CMEA countries, the largest total rise, in both 1974 and 1975, is predicted for the clothing category. In 1974 the calculated rise in U.S. clothing imports would have amounted to something over \$29.8 million, representing a rise of 387 percent of the actual U.S. imports of clothing from these six CMEA countries in 1974, but only 1.3 percent of the actual U.S. imports of clothing from the world.<sup>32</sup> (U.S. imports of clothing from the six countries in 1974 was \$7.7 million, or three-tenths of one percent of total U.S. clothing imports.) The figures for 1975 are similar: the \$6.0 million of actual clothing imports from the six CMEA countries would have increased by 477 percent,<sup>33</sup> or \$28.6 million, representing 1.1 percent of actual 1975 U.S. clothing imports from the world.

The next largest total increases come in the iron and steel (except high carbon or alloy) and the non-ferrous metals categories, with the latter dominating in 1974 and the former in 1975.

The non-ferrous metals that account for the rises are aluminum, copper and zinc. (It should be noted that imports of aluminum oxide—which belongs to a different category—are also predicted to rise significantly.) Other non-ferrous metals that are important in the Eastern trade are not subject to discriminatory tariffs. U.S. imports of non-ferrous metals in 1974 would have increased by \$26.2 million, according to our results (aluminum by \$11.4 million, copper by \$13.5 million, zinc by \$1.3 million); this would have represented an 1141 percent rise in actual U.S. imports of the three metals from the six countries in 1974, but only 1.3 percent of U.S. imports of the three metals from the world. In 1975, the rise would have dropped to \$14.5 million (\$12.7 million for aluminum, \$1.4

<sup>32</sup> The United States is a signatory of the Multifiber Textile Agreement of the GATT. Conformable with GATT specifications, the United States has already negotiated bilateral agreements with several Eastern European countries restraining the textile trade. It is unlikely that the predictions of this paper would in fact be fully realized, because of the demonstrated vigilance of the U.S. clothing industry in pressing for Q.Rs.

<sup>33</sup> This percentage increase is probably exaggerated, because Romania enjoyed MFN status during the second half of 1975, and therefore part of the predicted rise must already be incorporated into the actual 1975 clothing imports. Similar remarks must be understood for the other product categories as well.

million for copper, and \$0.5 million for zinc), representing a 14,000 percent rise in U.S. imports of the three metals from the six countries but only a 1.3 percent rise in imports of the three metals from the world. The U.S. recession caused a cutback in industrial materials imports that fell much more than proportionately upon the CMEA countries.

In 1974, U.S. imports from the CMEA six of iron and steel (none of high carbon or alloy steel) bars, rods and plates would have increased by 101.6 percent, or \$19.3 million; in 1975 the rise would have come to 161.2 percent of actual imports, or \$24.5 million. These rises would have constituted, respectively, 0.4 percent of the 1974 U.S. iron and steel imports from the world, and 0.5 percent of the 1975 imports.

Furniture comes next in order of predicted import increases, with incremental values of \$14.8 million and \$17.8 million in 1974 and 1975, respectively. The 1974 rise would have been equivalent to a 550 percent rise in actual imports from the CMEA six, and 3.3 percent of imports from the world. The 1975 rise would have represented a 711 percent rise in CMEA six furniture sales to the U.S., and a 4.4 percent rise in U.S. furniture imports from the world.

Beyond this, the values and percentages fall off markedly, even at the SITC 2-digit level that we have in fact been dealing with in this discussion (iron and steel=67, non-ferrous metals=SITC 68, furniture=SITC 82, clothing=SITC 84).

Table 10 provides a tabulation of the chief components of the total predicted MFN-induced rises in U.S. imports from the six: expressed at the 2-digit level, it becomes possible to compare the predicted relative distributions among product categories with those of previous investigators.

TABLE 10.—PERCENT OF TOTAL MFN-INDUCED RISE IN U.S. IMPORTS FROM 6 CMEA COUNTRIES<sup>1</sup>—CONTRIBUTED BY SELECTED SITC 2-DIGIT GROUPS

[In percent]

SITC Description	Wolf (1968)	Elias-Searing (1971)		Raffel, Rubin & Teal <sup>4</sup>	
		High <sup>2</sup>	Low <sup>2</sup>	1974	1975
01 Meat and meat preparations.....	(0)	3.2	0	0	0
66 Nonmetallic mineral manufactures.....	12.4	1.7	6.2	.9	1.1
67 Iron and steel.....	37.2	21.0	17.3	15.2	19.9
68 Nonferrous metals.....	1.5	2.2	0	21.1	12.7
71 Nonelectric machinery.....	2.6	3.8	2.1	1.2	1.7
72 Electric machinery.....	(0)	6.1	1.5	1.8	2.0
73 Transport equipment.....	.5	6.6	(0)	1.4	1.3
82 Furniture.....	1.8	1.3	1.6	11.7	14.4
84 Clothing.....	11.7	10.6	24.0	23.5	23.2
85 Footwear.....	5.3	5.2	7.6	0	0
89 Miscellaneous manufactured articles.....	3.6	5.3	1.5	4.2	4.7
Subtotal (percent of total rise).....	76.6	67.0	61.8	81.0	81.0

<sup>1</sup> Bulgaria, Czechoslovakia, German Democratic Republic, Hungary, Romania, and U.S.S.R.

<sup>2</sup> "High" and "Low" for the Elias-Searing model represent their high and low estimates of the total value of the MFN-induced increase in U.S. imports. The percentage of the low total contributed by a given product category may of course exceed its percentage contribution to the high total.

<sup>3</sup> Negligible.

<sup>4</sup> Percent of total MFN-induced rise for the IW top 50 items, contributed by those items among the IW top 50 falling into the specified 2-digit groups.

All three sets of investigations predict that iron and steel products and clothing will be most strongly affected. Wolf's results, however, give iron and steel roughly double the proportion accorded it in both the Elias-Searing study and in the present one; Wolf also has

non-metallic mineral manufactures taking a significantly higher proportion than the other studies indicate. The present paper, on the other hand, stresses non-ferrous metals and furniture to a much greater extent than the earlier studies, while they give some weight to footwear and we do not. The three distributions are similar with regard to meat preparations, non-electric and electrical machinery, transport equipment, and miscellaneous manufactured articles.

Despite similarities in distribution among products, the overall impact of granting MFN is estimated to be much stronger by these two previous studies than by the present study, as was pointed out in Section 2. Since neither of those studies is econometric, there is no way of knowing how reasonable their estimates are. More precisely, those studies fail to provide a criterion for determining the correctness of the assumption of equality between a CMEA country share in some reference Western market and the CMEA country share in the U.S., once the U.S. has granted MFN. By way of contrast, the use of regression analysis allows us to estimate the parameters of the relationship between these two types of shares, and to make probabilistic statements about their reliability. Thus we believe that our model in effect examines the validity of the basic assumption underlying both the Wolf and the Elias-Searing models.<sup>34</sup> The Western group that we selected as a reference group (the "Industrialized West") is intermediate between Wolf's reference group (OECD minus the United States) and that of the Elias-Searing "high" model (the original EEC six plus the U.K.). In almost every case, our results gave a CMEA share in U.S. imports, with MFN status granted, that was intermediate between its share without MFN and its share in the I.W. market.<sup>35</sup>

## 5. DISCUSSION

The credibility of the predicted 1974 and 1975 U.S. import increases in response to MFN depends upon—

- (1) The cogency of the model;
- (2) The accuracy of the data;
- (3) The degree of disaggregation;
- (4) The variability of the independent variables; and
- (5) The indices of statistical significance.

Given some confidence in their validity, the applicability of our ex post historical predictions to projections into the future introduces further considerations. We group the latter under three headings:

- (1) Future changes in the values and the product mix of CMEA country total exports to the I.W., including the introduction of new types of products;

<sup>34</sup> See Section 2.

<sup>35</sup> For most products, we found that at MFN tariff rates the U.S. share in communist country exports to the I.W. remained smaller than the U.S. share in world exports to the I.W. It would then follow that the communist share of total U.S. imports of the product would remain less than the communist country share of I.W. imports of the product:

$$\frac{\text{Communist country} \rightarrow \text{U.S.}}{\text{Communist country} \rightarrow \text{I.W.}} < \frac{\text{World} \rightarrow \text{U.S.}}{\text{World} \rightarrow \text{I.W.}}$$

implies that

$$\frac{\text{Communist country} \rightarrow \text{U.S.}}{\text{World} \rightarrow \text{U.S.}} < \frac{\text{Communist country} \rightarrow \text{I.W.}}{\text{World} \rightarrow \text{I.W.}}$$

Equality is therefore predicted not to hold true despite the granting of MFN by the U.S. To be sure, equality was only intended as a rough approximation in previous studies. Furthermore, in a number of cases the inequality went the other way for our estimates, and the communist country was predicted to capture a larger share of the U.S. market than of the reference market. There is, of course, nothing surprising about either result.

(2) Future changes in relative total demands for each product, or shares from the world, of the I.W. countries; and

(3) Future changes in non-tariff barriers on the part of the I.W. countries, as well as future changes in tariffs by I.W. countries other than the U.S.

These three factors are, however, interrelated.

Leaving aside the cogency of the model, the accuracy of the data, and problems of disaggregation, which have been mentioned in earlier sections, we must pass judgment on the other items.

The problem of variability is as follows: if, say, the tariffs of all the I.W. countries were identical for a given product from a CMEA country, then there would be no way to estimate from the data what response to expect from a change in one of the tariffs: if no such response is recorded in the actual set of data observations, then no coefficient can be estimated for the tariff term. Even when there is variation in the tariffs of the data set, if the range of variation does not extend as far as the hypothetical change in tariff being tested, then the coefficient of the tariff term may not be properly applicable to the larger change. For almost every product examined in this paper, the tariff and distance variables showed a wide enough range among the I.W. countries to allow their coefficients to be estimated. Furthermore, the hypothetical change from a non-MFN tariff rate—included in the data set for estimating the coefficients—down to an MFN rate constituted a change within the data range in every case. On the other hand, the Polish equations may provide poorer estimates of the response to absence of MFN, both because the hypothetical higher tariff exceeds the range of the observations, and because the observations display low variability.

But the problem of data variability appears to be most pressing for the QRs. For all of the CMEA countries, including Poland, so few CMEA-specific quantitative restrictions were discovered that we strongly suspect that the general absence of statistically significant QR terms in our equations is more due to the inadequacy of our treatment of the data than to the unimportance of QRs. First of all, as already noted, the use of a two-valued dummy variable obscures the actual range of variability. Secondly, it is quite possible that general QRs affect CMEA country products to a degree comparable to country-specific QRs, and we did not attempt to include these in our observations. A great deal more work needs to be done on QRs.

As for statistical reliability, a glance at the equations in Appendix B reveals that a number of them have low  $\bar{R}^2$  values, despite the statistical significance of all of the explanatory variables. This was not unexpected. The values of  $\bar{R}^2$  would have been higher if (1) we had chosen to work at a higher level of aggregation (at which item-specific variation tends to cancel out), (2) we had conducted a time series analysis (with more homogeneous underlying conditions) as opposed to a cross section analysis; and most importantly, (3) we had isolated more of the non-economic factors impinging on trading patterns. Ultimately more will have to be said about the evolution of trading patterns over time, and modeling refinements will have to be made to take into account non-economic realities. Nevertheless, at a minimum, we have isolated and quantified a likely estimate of the impact of tariff changes, and demonstrated the statistical reliability of the coefficients.

The real payoff is the extent to which historical results can be used for projective purposes. The applicability of our results to the situation that will exist by the time MFN for CMEA countries other than Poland and Romania should become a reality will depend, as we have said, upon underlying changes that will have taken place in the meanwhile in CMEA supply conditions, in Western barriers to the Eastern trade other than the U.S. tariff, and in relative demand in the West, reflected, in our model, by changes in world shares. Almost three years have already passed since 1974, the year of the data from which our coefficients were estimated.<sup>36</sup> Market conditions have already changed to some extent, and the course of some of the trends may themselves be projected into the future.

One preliminary point must be made. Our model is cross sectional, which is to say, it is a comparative statics model. It asks the question: If the U.S. tariff for a certain import had been as low as the tariff of some other I.W. country for as long as that other tariff had been at that low level—with all of the concomitant commercial and political relationships that an already abiding lower tariff implies—what then would be the U.S. share of that import? A comparative statics model has the history of the comparison countries built in. The predictions of the model are thus tailored to a post-adjustment time, and incorporate the full impact of the tariff change, to which the situation would have settled down by 1974 had the change in tariff occurred earlier. The predicted impact is therefore in all likelihood greater than what would be experienced during the transition phase by a newcomer to more normal tariff levels.

The first of the three underlying trends that affect the applicability of our predictions to the future is CMEA country supply. Our basic model is framed in terms of the relative shares among the I.W. countries in the absolute flows of the various products that emerge from the East; strictly speaking, we have avoided the problem of predicting these absolute quantities. However, this is not the end of the matter. The major goal of our project was to estimate the overall percentage rise in U.S. imports from a CMEA country consequent to granting it MFN. Even if we were to correctly predict the U.S. shares in each CMEA country export to the I.W., a preferential change in the relative mix of its export products towards those products which show the greatest tariff sensitivity and for which the U.S. MFN, non-MFN tariff differential is greatest would strongly increase the overall percentage rise in U.S. imports from a CMEA country accorded MFN. The question, then, is whether the products itemized in Tables 3 through 9, the products which, *ceteris paribus*, would increase most strongly among U.S. imports under MFN, are likely to increase their relative shares in total CMEA country exports to the I.W. We have not studied this question.<sup>37</sup> It is possible that some of the items will see a relative increase.

It is reasonable to expect that Eastern exports of clothing, processed food, copper, aluminum, and wood and paper manufacturers will increase over the coming decade: these are items which feature among the major turnkey and compensation projects underway in the East.

<sup>36</sup> By late summer 1977 we will have estimates based upon 1976 data.

<sup>37</sup> But see the paper by Lenz and Kravalis, elsewhere in this volume.

On the other hand, other products among those examined in this paper, not subject to U.S. discriminatory tariffs, are also undergoing rapid development in the East. These include sulfur, nickel, petroleum, tractors, and fertilizers. In any event, it is difficult to foresee any great swing in export mix during the next five years which would markedly change the percentage of MFN-sensitive goods in total U.S. imports from the CMEA countries. Of course, the "lumpiness" of changes in product mix, as new projects come on-stream, can cause occasional large swings in the composition of Eastern exports to the West.

One further question arises in connection with production developments in the CMEA countries and market shares of the Western buyers. Compensation or buy-back agreements are becoming increasingly common forms of Western-financed projects in the East. These involve some degree of pay-back in the product of the installation once it comes on-stream. It is possible that the U.S. granting of MFN to a communist country could be crucial in some instances to the ability of U.S. firms to participate in major Eastern development projects and to the amounts of product imported under U.S. buy-back agreements.

It must, however, be appreciated that whether a U.S. or a French business firm acts as broker for disposal of the buy-back product, the export destination of the product may still be the same, namely, the market in which profits are maximized. Thus, the incremental flow of product to the U.S. under MFN may be expected to be far more influenced by the fact that either a French firm or an American firm would do better in the U.S. market given MFN, than by the fact that the middleman is American rather than French. There will perhaps be a more direct influence on relative shares if the buy-back deal is for parts and accessories specifically designed to be incorporated into a U.S. finished product, but here, too, it would more likely be the tariff lowering, rather than the U.S. nationality, that would clinch the deal. In a comparative statics model like ours, the effects of industrial cooperation as displayed in the past are already included in predictions for the future.

The second underlying trend that affects the applicability of our model to the future is changes in relative demands for each product, or shares from the world, of the I.W. countries.

Relative shares of the I.W. countries in imports from the world as a whole, for the products examined in this paper, can be predicted with greater confidence to remain fairly stable. Without performing statistical tests on the world shares, we judged them to be sufficiently steady over the three years 1973-75 not to warrant averaging for the purposes of our model. Objections can always be raised for individual products, but we believe that relative tastes and strengths of demand among the I.W. countries, product by product, change but slowly for the vast majority of products.

Finally, we come to what we believe is the most variable element in the underlying universe of our model: changes in the tariffs of other I.W. countries, and changes in quantitative restrictions of various sorts throughout the I.W., the U.S. included. The tariff changes are fairly uniform and foreseeable. Changes in QRs are the most unstable aspect of the picture, the least well handled in our model (in our judgment), and yet the most certain in predictability of outcome once they are imposed.

Western tariffs are being slowly lowered, on the whole. It is rare for a tariff to rise. The Kennedy round of tariff cuts in the MFN rates of the GATT members promises to be succeeded by the Tokyo round. If the United States maintains its column 2 (non-MFN) rates intact, and fails to grant MFN to those communist countries that do not now have it, more and more of the affected CMEA goods may be expected to seek outlets in other Western markets. From the tariff point of view alone, as time passes without the granting of MFN by the U.S., the U.S. share of tariff-sensitive CMEA country exports would be expected to fall; if, then, MFN is granted at some future time, the proportional rise in U.S. import share would be so much the greater—especially since the U.S. MFN rates would also have fallen in the meanwhile.

But quantitative restrictions change the whole picture in an unpredictable way. Unilateral quotas of various types, bilateral agreements, and multilateral guidelines all restrict the trade in any specific category of product for any reason of national interest. European Community restrictions on foodstuff imports suddenly lead to surges in CMEA sales to other I.W. countries, and there is a reverse effect when the U.S. negotiates quotas on footwear. No matter how strong the statistical indicators of tariff sensitivity may appear to be, the repercussions of granting MFN can be quickly modified, and the econometric predictions negated, by market disruption proceedings.

## APPENDIX A

AD VALOREM EQUIVALENT U.S. TARIFF RATES UNDER MFN AND NON-MFN CONDITIONS<sup>1</sup>

SITC <sup>2</sup>	Col. 1 <sup>3</sup>	Col. 2 <sup>3</sup>	SITC <sup>1</sup>	Col. 1 <sup>3</sup>	Col. 2 <sup>2</sup>
0011.....	5.6	6.5	08112.....	1.0	11.5
0012.....	0	2.2	0913.....	12.0	13.5
0013.....	2.4	9.6	11212.....	9.5	31.9
0015.....	3.8	20.0	1210.....	23.4	62.4
0019.....	3.8	14.6	2120.....	0	0
0111.....	5.1	10.5	2218.....	1.1	7.5
0112.....	5.1	10.5	2312.....	3.0	20.0
0113.....	5.1	10.5	2411.....	0	0
0114.....	11.9	12.9	2421.....	0	0
0115.....	5.1	10.5	24221.....	0	0
01189.....	3.4	10.9	2429.....	0	0
0121.....	3.8	7.0	24321.....	0	3
0134.....	3.9	13.5	24331.....	.1	1.2
0138.....	4.6	10.2	2631.....	3.2	7.4
0230.....	11.6	20.7	26631.....	7.3	25.0
0240.....	10.8	35.0	2713.....	0	0
0250.....	3.8	10.5	2741.....	0	0
0311.....	1.0	2.8	2742.....	0	0
03201.....	7.0	25.5	27621.....	2.2	10.2
03202.....	8.3	20.2	27624.....	5.3	20.5
0482.....	5.8	7.7	2764.....	0	0
0515.....	2.4	9.0	2813.....	0	0
05193.....	1.3	4.0	2820.....	0	0
05209.....	5.0	6.5	28391.....	0	0
0533.....	6.1	35.0	29196.....	14.2	20.0
0535.....	42.9	111.6	2924.....	.2	2.7
05361.....	3.0	35.0	3214.....	0	0
0539.....	8.2	15.5	3216.....	0	0
0541.....	14.2	20.6	3218.....	0	0
0542.....	8.2	21.9	33101.....	0	( <sup>4</sup> )
0544.....	14.2	20.6	33102.....	0	( <sup>4</sup> )
0545.....	14.2	20.6	3321.....	0	( <sup>4</sup> )
05484.....	7.9	25.3	3322.....	0	( <sup>4</sup> )
0551.....	11.4	45.0	3323.....	0	( <sup>4</sup> )
05551.....	11.5	35.0	3324.....	0	( <sup>4</sup> )
05552.....	12.8	37.0	33262.....	0	3.3
0612.....	8.1	24.3	33291.....	0	( <sup>4</sup> )
0616.....	4.4	13.2	3411.....	0	( <sup>4</sup> )
0751.....	3.2	4.2	4216.....	5.7	28.5

See footnotes at end of table.

## APPENDIX A—Continued

AD VALOREM EQUIVALENT U.S. TARIFF RATES UNDER MFN AND NON-MFN CONDITIONS <sup>1</sup>—Continued

SITC <sup>2</sup>	Col. 1 <sup>3</sup>	Col. 2 <sup>3</sup>	SITC <sup>2</sup>	Col. 1 <sup>3</sup>	Col. 2 <sup>3</sup>
51212	.8	2.8	6851	8.2	16.4
51227	14.5	88.2	6861	4.1	10.3
51251	5.5	29.0	68931	1.9	9.3
51285	16.6	65.3	6895	0	( <sup>4</sup> )
51351	.1	.1	6911	3.9	21.5
51365	0	14.7	69411	1.0	4.0
5151	0	0	7115	3.8	33.3
5414	6.8	30.7	7125	9	4.6
5511	2.7	16.4	7151	7.3	30.4
5611	0	0	71521	4.5	35.0
5613	0	0	71711	6.2	40.0
5811	14.5	82.5	71829	6.6	25.0
59953	0	9	71931	5.0	35.0
6130	5.2	28.1	71932	4.5	35.0
6291	4.3	10.5	71992	8.0	41.3
63121	16.6	41.4	7221	7.7	35.0
63142	9.8	40.0	7222	7.9	35.0
63183	0	0	7231	7.9	36.0
6413	4.0	30.0	72501	5.0	35.0
65229	11.9	18.4	7292	5.8	20.0
6537	28.7	75.5	7317	4.0	27.5
6562 <sup>5</sup>			7321	5.3	11.3
65691	16.5	47.9	73289	3.6	22.6
6575	7.7	45.6	73291	5.0	10.0
6652	23.2	60.0	7353 <sup>5</sup>		
6664	35.1	73.0	81241	12.8	63.0
6666	15.2	54.2	82101	6.1	30.2
6672	1.9	4.7	82109	7.0	40.6
6712	3.3	1.9	8310	15.0	43.0
6715	0	18.8	84111	25.2	59.8
67251	6.0	20.8	84112	25.8	62.3
67271	7.5	20.0	84113	28.1	63.5
67311	4.2	10.1	8413	10.0	34.2
67321	7.3	20.1	84142	28.4	72.6
67341	1.8	4.0	84143	35.9	71.2
67351	1.8	4.0	84144	36.4	73.6
67411	8.0	20.4	84201	9.8	50.0
67431	8.0	20.4	85101	9.0	38.8
67501	8.3	19.9	85102	10.3	21.8
6782	7.6	19.1	8614	7.6	22.1
6783	3.8	9.5	89141	8.5	40.0
68111	0	4	89211	0	0
68121	0	0	89422	17.5	70.0
68212	1.7	8.2	89423	16.6	70.0
6831	.1	2.0	89425	14.6	62.4
6841	4.3	16.5	89922	12.9	45.3

<sup>1</sup> Col. 1 rates were obtained from the GATT Tariff Study tapes. U.S. 1972 imports from the world were used as weights. Col. 2 rates were calculated by the authors, using the same weights.

<sup>2</sup> Standard International Trade Classification of the United Nations.

<sup>3</sup> Col. 1 (of the Tariff Schedules of the United States) is the MFN rate. Col. 2 is the non-MFN rate for specified communist countries.

<sup>4</sup> Tariff either temporarily suspended or offset by rebates in 1974 and 1975.

<sup>5</sup> TSUS equivalents lacking.

## APPENDIX B

## ESTIMATING EQUATIONS

*CS* = Share of I. W. imports from CMEA country

*D* = Distance

*WS* = Share of I. W. imports from world

*QR* = Quantitative Restrictions

*t* = Tariff rate

NOTE.—Figures in parentheses are student "t" values.

*Bulgaria*

*SITC*

0541	$\text{Ln } CS - \text{Ln } WS = 7.432 - 120.342 \text{ Ln } (1+t)$ (-2.381)
	$R^2 = .26 \quad \text{d.f.} = 12$
0544	$CS = 142.66 + 1.103 WS - 126.55 (1+t)$ (2.87) (-2.10)
	$R^2 = .36 \quad \text{d.f.} = 11$
0551	$CS = 19.20 + 1.02 WS - 16.87 (1+t)$ (4.73) (-1.34)
	$R^2 = .61 \quad \text{d.f.} = 11$
0555	$\text{Ln } CS - \text{Ln } WS = 3.556 - 18.957 \text{ Ln } (1+t)$ (-2.534)
	$R^2 = .29 \quad \text{d.f.} = 12$
2218	$CS - WS = 391.04 - 387.03 (1+t)$ (-2.49)
	$R^2 = .29 \quad \text{d.f.} = 12$
6740	$CS - WS = 141.87 - 132.13 (1+t)$ (-1.68)
	$R^2 = .12 \quad \text{d.f.} = 12$
6861	$CS - WS = 14.190 - 136.748 (1+t)$ (-4.200)
	$R^2 = .56 \quad \text{d.f.} = 12$
7151	$CS = 30.69 + 0.88 WS - 27.22 (1+t)$ (2.28) (-1.38)
	$R^2 = .26 \quad \text{d.f.} = 11$
7193	$\text{Ln}^* CS - \text{Ln } WS = 2.111 - 57.718 \text{ Ln } (1+t)$ (-2.431)
	$R^2 = .27 \quad \text{d.f.} = 12$
7221	$\text{Ln } CS - \text{Ln } WS = 0.140 - 50.606 \text{ Ln } (1+t)$ (-1.861)
	$R^2 = .16 \quad \text{d.f.} = 12$
84112	$\text{Ln } CS - \text{Ln } WS = 0.371 - 36.050 \text{ Ln } (1+t)$ (-1.934)
	$R^2 = .17 \quad \text{d.f.} = 12$
84113	$CS = 50.86 + 2.17 WS - 47.08 (1+t)$ (4.29) (-1.72)
	$R^2 = .57 \quad \text{d.f.} = 11$
84144	$CS = 115.23 + 3.31 WS - 106.20 (1+t)$ (5.49) (-3.58)
	$R^2 = .69 \quad \text{d.f.} = 11$
84201	$\text{Ln } CS - \text{Ln } WS = 4.175 - 50.832 \text{ Ln } (1+t)$ (-4.697)
	$R^2 = .61 \quad \text{d.f.} = 12$
<i>Czechoslovakia</i>	
05484	$CS = 146.065 + 2.204 WS - 42.598D - 138.987(1+t)$ (4.981) (-2.763) (-3.432)
	$R^2 = .65 \quad \text{d.f.} = 10$
27624	$CS = 87.36 + 1.66 WS - 89.92(1+t)$ (11.83) (-3.20)
	$R^2 = .92 \quad \text{d.f.} = 11$
6715	$\text{Ln } CS = -3.812 + 4.110 \text{ Ln } WS - 155.074 \text{ Ln } (1+t)$ (3.153) (-3.406)
	$R^2 = .50 \quad \text{d.f.} = 11$

## Czechoslovakia—Continued

SITC	
67321	$CS - WS = 162.74 - 151.06(1+t)$ (-2.07)
	$R^2 = .20$ d.f. = 12
6740	$CS - WS = 154.60 - 143.99(1+t)$ (-2.62)
	$R^2 = .31$ d.f. = 12
7221	$\text{Ln } CS - \text{Ln } WS = -1.625 - 1.465 \text{ Ln } D - 48.036 \text{ Ln } \frac{1}{1+t}$ (-1.878) (-4.174)
	$R^2 = .72$ d.f. = 11
73291	$\text{Ln } CS - \text{Ln } WS = 7.286 - 68.768 \text{ Ln } (1+t)$ (-4.354)
	$R^2 = .58$ d.f. = 12
81241	$CS - WS = 33.68 - 29.49(1+t)$ (-2.55)
	$R^2 = .30$ d.f. = 12
8310	$CS - WS = 74.43 - 64.63(1+t)$ (-3.00)
	$R^2 = .38$ d.f. = 12
84112	$CS = 35.55 + 2.46 WS - 36.86(1+t)$ (6.00) (-1.84)
	$R^2 = .73$ d.f. = 11
84143	$CS = 71.60 + 1.54 WS - 60.69(1+t)$ (2.84) (-2.20)
	$R^2 = .33$ d.f. = 11
84144	$CS = 85.86 + 2.29 WS - 76.65(1+t)$ (5.40) (-3.67)
	$R^2 = .68$ d.f. = 11

## GDR

2218	$CS - WS = 455.15 - 448.14(1+t)$ (-1.98)
	$R^2 = .20$ d.f. = 11
2312	$\text{Ln } CS = -16.126 + 6.960 WS - 79.180 \text{ Ln } (1+t)$ (2.937) (-1.981)
	$R^2 = .44$ d.f. = 10
6291	$\text{Ln } CS - \text{Ln } WS = -6.481 - 4.228 \text{ Ln } D - 79.414 \text{ Ln } (1+t)$ (-3.481) (-3.677)
	$R^2 = .67$ d.f. = 10
6537	$\text{Ln } CS - \text{Ln } WS = -10.822 - 4.253 \text{ Ln } D - 16.728 \text{ Ln } (1+t)$ (-3.627) (-1.865)
	$R^2 = .65$ d.f. = 10
6664	$CS - WS = 62.976 - 29.155 D - 47.338(1+t)$ (-2.794) (-4.130)
	$R^2 = .61$ d.f. = 10
6666	$CS - WS = 30.080 - 24.781(1+t)$ (-1.892)
	$R^2 = .18$ d.f. = 11
71931	$\text{Ln } CS - \text{Ln } WS = 1.036 - 53.348 \text{ Ln } (1+t)$ (-2.144)
	$R^2 = .23$ d.f. = 11
71992	$\text{Ln } CS - \text{Ln } WS = -7.160 - 2.818 \text{ Ln } D - 35.967 \text{ Ln } (1+t)$ (-1.803) (-1.831)
	$R^2 = .62$ d.f. = 10
7221	$\text{Ln } CS - \text{Ln } WS = -8.262 - 3.545 \text{ Ln } D - 42.193 \text{ Ln } (1+t)$ (-2.686) (-2.256)
	$R^2 = .66$ d.f. = 10
8210	$CS - WS = 71.323 - 61.549 (1+t)$ (-2.893)
	$R^2 = .54$ d.f. = 11
8310	$CS - WS = 87.37 - 74.01 (1+t)$ (-3.31)
	$R^2 = .45$ d.f. = 11

## GDR—Continued

SITC

8614	Ln CS = .5776 + 1.518 Ln WS - 16.364 Ln (1+t) (3.112) (- 1.741)
	R <sup>2</sup> = .40 d.f. = 10
89141	CS = 97.43 + 1.94 WS - 92.57 (1+t) (5.27) (- 4.47)
	R <sup>2</sup> = .70 d.f. = 10
89422	CS - WS = 89.670 - 23.450 D - 72.122 (1+t) (- 2.971) (- 8.201)
	R <sup>2</sup> = .90 d.f. = 10
89423	CS - WS = 47.664 - 24.381 D - 36.207 (1+t) (- 5.130) (- 6.833)
	R <sup>2</sup> = .90 d.f. = 10
89425	CS - WS = 52.780 - 44.923 (1+t) (- 2.757)
	R <sup>2</sup> = .36 d.f. = 11

## Hungary

2218	CS - WS = 396.47 - 392.19 (1+t) (- 2.25)
	R <sup>2</sup> = .24 d.f. = 12
29196	CS = 88.15 + 1.22 WS - 87.43 (1+t) (4.15) (- 1.70)
	R <sup>2</sup> = .55 d.f. = 11
51365	CS - WS = 293.135 - 64.776 D - 268.446 (1+t) (- 1.563) (- 1.819)
	R <sup>2</sup> = .21 d.f. = 11
65691	Ln CS - Ln WS = 1.567 - 2.215 Ln D - 39.330 Ln (1+t) (- 2.272) (- 3.079)
	R <sup>2</sup> = .54 d.f. = 11
7221	Ln CS - Ln WS = -15.491 - 5.963 Ln D - 34.100 Ln (1+t) (- 8.325) (- 3.409)
	R <sup>2</sup> = .90 d.f. = 11
72501	Ln CS - Ln WS = -1.534 - 65.771 Ln (1+t) (- 2.296)
	R <sup>2</sup> = .25 d.f. = 12
7292	Ln CS - Ln WS = 3.181 - 57.371 Ln (1+t) (- 2.137)
	R <sup>2</sup> = .22 d.f. = 12
8210	CS - WS = 41.44 - 36.47 (1+t) (- 2.65)
	R <sup>2</sup> = .32 d.f. = 12
4112	CS = 36.868 + 2.267 WS - 36.800(1+t) (6.550) (- 2.181)
	R <sup>2</sup> = .77 d.f. = 11
84113	CS = 51.27 + 2.21 WS - 47.62(1+t) (4.42) (- 1.76)
	R <sup>2</sup> = .59 d.f. = 11
8413	CS - WS = 100.15 - 88.56(1+t) (- 4.07)
	R <sup>2</sup> = .54 d.f. = 12
84143	CS - WS = 64.05 - 51.59(1+t) (- 3.12)
	R <sup>2</sup> = .40 d.f. = 12
84144	CS = 92.43 + 2.46 WS - 82.90(1+t) (5.97) (- 4.10)
	R <sup>2</sup> = .73 d.f. = 11
84201	Ln CS - Ln WS = 4.259 - 37.713 Ln (1+t) (- 3.890)
	R <sup>2</sup> = .52 d.f. = 12

## Poland

SITC

2312	$\text{Ln CS} - \text{Ln WS} = 17.542 - 5.851 \text{ Ln } D - 277.458 \text{ Ln } (1+t)$ (-3.273) (-2.374)
	$R^2 = .64$ d.f. = 11
68212	$\text{Ln CS} - \text{Ln WS} = -3.763 - 209.494 \text{ Ln } (1+t)$ (-2.042)
	$R^2 = .20$ d.f. = 12
6861	$\text{CS} - \text{WS} = 133.168 - 129.534 (1+t)$ (-2.175)
	$R^2 = .22$ d.f. = 12
71521	$\text{Ln CS} - \text{Ln WS} = 7.911 - 236.093 \text{ Ln } (1+t)$ (-2.695)
	$R^2 = .33$ d.f. = 12
84111	$\text{Ln CS} - \text{Ln WS} = 3.854 - 27.324 \text{ Ln } (1+t)$ (-3.033)
	$R^2 = .39$ d.f. = 12
84112	$\text{Ln CS} - \text{Ln WS} = 0.219 - 7.681 \text{ Ln } (1+t)$ (-1.750)
	$R^2 = .14$ d.f. = 12
84144	$\text{CS} = 67.23 + 1.14 \text{ WS} - 56.22 (1+t)$ (3.41) (-1.50)
	$R^2 = .44$ d.f. = 11

## Romania

0544	$\text{CS} - \text{WS} = 97.299 - 25.212D - 81.750 (1+t)$ (-2.593) (-3.060)
	$R^2 = .48$ d.f. = 11
0545	$\text{CS} = 83.155 + 1.083 \text{ WS} - 23.392D - 70.187 (1+t)$ (6.165) (-2.291) (-2.138)
	$R^2 = .76$ d.f. = 10
0616	$\text{Ln CS} = -2.802 + 2.595 \text{ Ln WS} - 2.827 \text{ Ln } D - 27.796 \text{ Ln } (1+t)$ (5.197) (-2.647) (-3.589)
	$R^2 = .72$ d.f. = 10
63121	$\text{CS} - \text{WS} = 72.411 - 32.178D - 56.470 (1+t)$ (-2.356) (-2.196)
	$R^2 = .54$ d.f. = 11
63142	$\text{Ln CS} - \text{Ln WS} = 0.359 - 57.623 \text{ Ln } (1+t)$ (-2.465)
	$R^2 = .28$ d.f. = 12
6740	$\text{CS} - \text{WS} = 127.64 - 118.88 (1+t)$ (-1.66)
	$R^2 = .12$ d.f. = 12
6841	$\text{CS} = 103.67 + 1.75 \text{ WS} - 102.35 (1+t)$ (3.39) (-1.35)
	$R^2 = .43$ d.f. = 11
8210	$\text{Ln CS} - \text{Ln WS} = 0.545 - 7.959 \text{ Ln } (1+t)$ (-2.724)
	$R^2 = .33$ d.f. = 12
84112	$\text{CS} = 24.71 + 1.99 \text{ WS} - 25.47 (1+t)$ (6.20) (-1.63)
	$R^2 = .74$ d.f. = 11
84113	$\text{CS} = 36.18 + 1.56 \text{ WS} - 31.98 (1+t)$ (4.49) (-1.68)
	$R^2 = .59$ d.f. = 11
8413	$\text{CS} - \text{WS} = 92.03 - 81.37 (1+t)$ (-3.44)
	$R^2 = .46$ d.f. = 12
84143	$\text{CS} - \text{WS} = 49.90 - 40.18 (1+t)$ (-1.81)
	$R^2 = .15$ d.f. = 12
84144	$\text{CS} = 74.78 + 1.99 \text{ WS} - 65.99 (1+t)$ (5.66) (-3.82)
	$R^2 = .70$ d.f. = 11
89922	$\text{CS} - \text{WS} = 78.90 - 69.35 (1+t)$ (-3.23)
	$R^2 = .42$ d.f. = 12

## U.S.S.R.

SITC

6130	Ln CS = -0.484 + 1.296 Ln WS - 12.159 Ln (1+t)
	(3.274) (-2.340)
	R <sup>2</sup> = .62 d.f. = 11
63121	CS = 82.245 + 2.166 WS - 61.886D - 66.695 (1+t)
	(5.474) (-2.608) (-1.992)
	R <sup>2</sup> = .68 d.f. = 10
6413	Ln CS - Ln WS = -3.646 - 9.914 Ln (1+t)
	(-2.019)
	R <sup>2</sup> = .19 d.f. = 12
6715	CS - WS = 136.95 - 131.37 (1+t)
	(-2.25)
	R <sup>2</sup> = .24 d.f. = 12
68212	CS = 121.89 + 1.08 WS - 121.17 (1+t)
	(4.25) (-1.70)
	R <sup>2</sup> = .56 d.f. = 11
6841	CS - WS = 101.049 - 95.875 (1+t)
	(-1.873)
	R <sup>2</sup> = .16 d.f. = 12

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